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# **Citizen Centred e-Government Services Evaluation Model**

**Ibrahim M. Alfadli**

A thesis presented for the degree of Doctor of Philosophy

School of Engineering and Computing Sciences

Durham University

2015

## **Statement of Copyright**

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## **Declaration**

No part of the material provided has previously been submitted by the author for a higher degree at Durham University or at any other University. All the work presented here is the sole work of the author and no one else. The following publications were produced during the course of this thesis:

### **External Conference Publication:**

1. Alfadli, I. and Munro, M. (2013). Citizen Centered e-Government Services Assessment Framework. In: *The 13th European Conference on e-Government - ECEG*. Reading, UK: Academic Conferences and Publishing International Limited, pp.573-577.

### **Internal Research Publications:**

1. Alfadli, I. (2012). Citizen Centered e-Government Services Assessment Framework. In: *School of Engineering and Computing Science Research Day*. Durham University, UK.
2. Alfadli, I. (2011). e-Government Implementation: In-Depth Evaluation of Saudi Arabia. In: *School of Engineering and Computing Science Research Day*. Durham University, UK.
3. Alfadli, I. (2010). e-Government Infrastructure in Saudi Arabia. In: *School of Engineering and Computing Science Research Day*. Durham University, UK.

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## **Dedication**

This thesis is dedicated to my family: my father, may Allah rest his soul in peace, my mother, for always being there for me throughout my life; my brothers and sisters, and my wife, who has provided me with constant support, encouragement, and kindness.

Finally, I dedicate this thesis to my son Mohammad and my daughter Lana; I hope this thesis makes you proud of your father.

## **Abstract**

Electronic government (e-Government) is attracting the interest of governments around the globe due to its great importance in facilitating, and providing services to citizens. Although most countries invest massive budgets to provide latest technologies, they face many obstacles, including the notable absence of the assessment, and evaluation of e-Government services from the citizen's point of view.

The objective of this research is to identify an e-Government evaluation model based on previous research and studies, and to evaluate each model by verifying its attributes, factors, and how they relate to each other. This research concentrates on evaluating online services provided to citizens by governments. It will develop a citizen centred model to evaluate e-Government services, and will help government organizations to find the strengths, and weakness of their online services.

One of the main aspects of developing an evaluation model is to consider the citizens. The citizen is one of the most important reasons for governments putting their services online (e-Services). Therefore, finding ways of evaluating e-Services is crucial for governments in order to achieve better results from their perspectives as well as citizen satisfaction.

The iMGov Model is based around the concepts of three phases in terms of Placing an Order, Processing an Order, and Delivering an Order. The new model will be compared with existing evaluation models.

In conclusion, this research will produce an adequate e-Government evaluation model to measure e-Government services provided to citizens.



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# Chapter 1 Introduction

## 1.1. Introduction

Electronic government (e-Government) is attracting the interest of governments around the globe due to its importance in facilitating, and providing services to citizens. Although most of the countries invest massive budgets to provide the latest technologies, they face many obstacles, including the notable absence of the assessment, and evaluation of e-Government services from the citizen's point of view (Alfadli and Munro, 2013).

Edward Lucas says:

*“Putting their services online should allow governments to serve their citizens much more effectively. But despite heavy spending, progress has been patchy”.* (The Economist, 2014)

Governments should take advantage of putting services online in order to achieve better citizen satisfaction. One example is to provide services to citizens after government working hours. According to Markellos (2014):

*“People want to deal with government not only in office hours, but also in the evenings and at weekends”.* (The Economist, 2014)

Figure 1-1 is an example of an e-Government service that is not available to citizens.



**Figure 1-1: Example of e-Government service that is not available. (The Economist, 2014)**

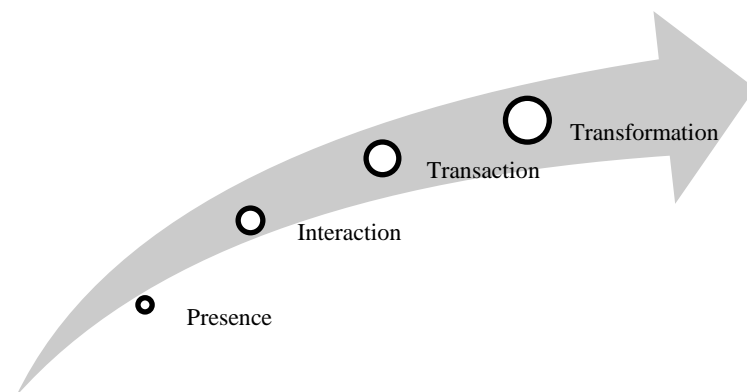
Bartels (2002) suggests that governments should prioritize which services to put online to improve internal government efficiencies and gain citizens' interest and satisfaction. Therefore it is important to find ways of assessing the evaluation of e-Government services to determine whether they are achieving the desired goals of their citizens.

## **1.2. Aim and Objective**

The objective of this research is to identify e-Government evaluation models based on previous research, and studies and to assess each model by identifying its attributes, and factors. This research concentrates on evaluating online services provided to citizens by governments. It will then develop a citizen centred model to evaluate e-Government services, in order to help government organizations to find the strengths, and weaknesses of their online services.

According to Gartner (Baum and Di Maio, 2000), there is a four stage process involved in e-Government initiatives as shown in

Figure 1-2. The first stage is to provide information to citizens (presence), for example a basic website; the second stage is to interact with citizens online (interaction), for example basic search, and limited interactivity; the third stage allows multiple departments within the organization to work together in order to provide online services to citizens (transaction), for example portals and self services applications; the fourth stage is to have additional features in the online services (transformation), for example personalization and wireless access. The aim of this four stage process is to deliver value to citizens.



**Figure 1-2: Gartner e-Government Four Phases (Baum and Di Maio, 2000)**

e-Government is about transforming relations with citizens, in order to improve the delivery of government services to citizens, and to empower them by enabling them to access information. The result will be less corruption, increased transparency, greater convenience and cost reductions (Bhatnagar, 2004).

According to Bhatnagar (2004) citizens in India, and countries in Latin America have benefited from provision of e-Government services that result in reduced delays, availability of many services under one roof, avoiding frequent visits in person, and reduced corruption.

The citizen is one of the most important reasons why governments put their services online (e-Services). Therefore, finding ways of evaluating e-Services is crucial for governments in order to achieve better results from their perspectives as well as citizen satisfaction.

*“E-government is not effectively serving users if they cannot find the information and services that they seek due to organizational, educational, policy, or management issues; do not have the skills to properly interact with e-government; do not understand the results that they get; or do not trust the information that they receive.”* (Jaeger and Bertot, 2010)

### **1.3. Case Study: Durham County Council’s Customer First**

To show the importance of the research a local case study is used. Durham County Council in the United Kingdom adopted their new Customer First Strategy for 2014-2017 that aims to transform the way customers, including citizens, access its services. (Durham.gov.uk, 2014)

In order to achieve the strategy objectives, the council declared their vision to: “

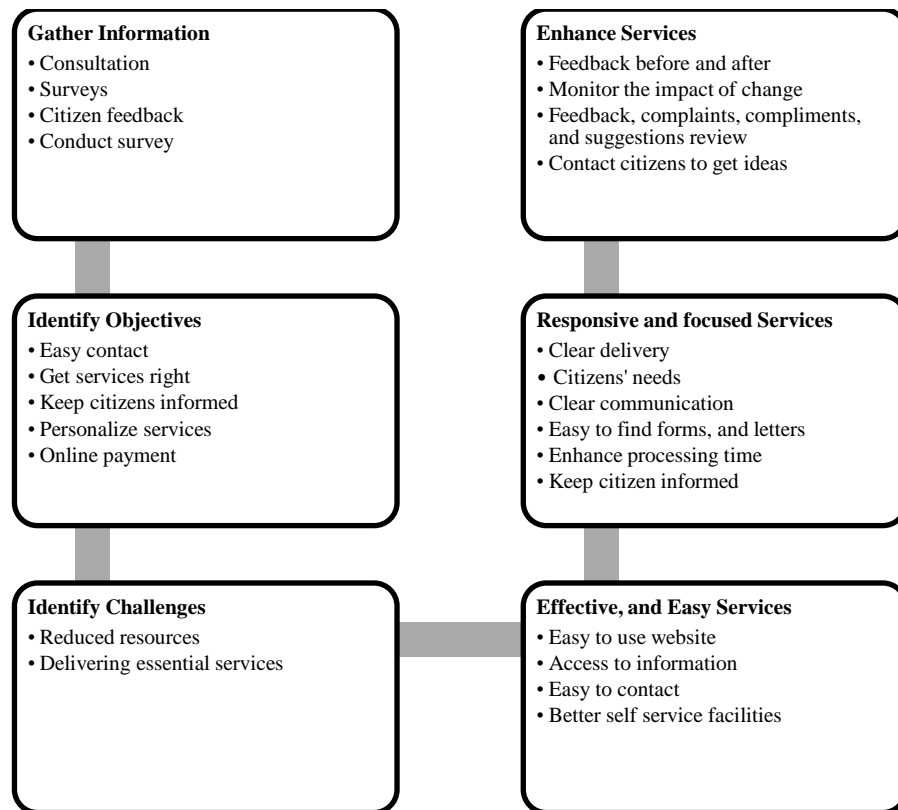
*“Deliver customer service that provides value for money, flexibility and choice whilst placing our customers at the heart of everything we do.”* (Durham.gov.uk, 2014)

The important point here is putting the customer first. Customers in this case include residents, visitors, businesses, and partners; from the research perspective the citizen is one form of customer. The council carried out consultations, surveys, and

obtained feedback on how they should deliver effective citizens services; they identified most citizens' demands of the council as follows:

1. Ease of contacting the council
2. Get services right from the first time
3. How and when the service is to be delivered
4. Choice of how to contact county council
5. Personalized services
6. Ability to make more payments online

There are three stages the council will apply in order to achieve their objectives, and seek citizens satisfaction. The first stage is to provide a range of effective and easy to use online services; for example, the council should be able to be contacted in different ways, develop an easy to use website, and engage with citizens using social networking. The second stage is to provide responsive and citizen focused services; for example, simplified letters and forms. The third stage is to enhance the services provided by reviewing citizens' feedback, obtaining information before and after making changes, monitoring the impact of changes on citizens, reviewing the way in which they deal with feedback, and encouraging them to suggest ideas to improve services in the future. The Durham County Council case study has identified a clear vision and approaches to overcome challenges and provide better e-Government services to citizens; Figure 1-3 summarizes Durham County Council approaches towards citizen first case study.



**Figure 1-3: Durham County Council Approaches towards citizen first Case Study**

Another example is the Government of Saudi Arabia developed an e-Government Strategy Map for their second action plan for 2012-2016. This is based on the strategy map (Yesser.gov.sa, 2014) as shown in Figure 1-4, and the focus is on the following four areas:

1. Reducing the cost of accessing e-Government services
2. Improving the quality of e-Government services, choice, availability, and service level
3. Increasing citizens' awareness of e-Government services
4. Increasing citizen satisfaction, making e-Government services the first choice, and increasing the usage of e-Government services



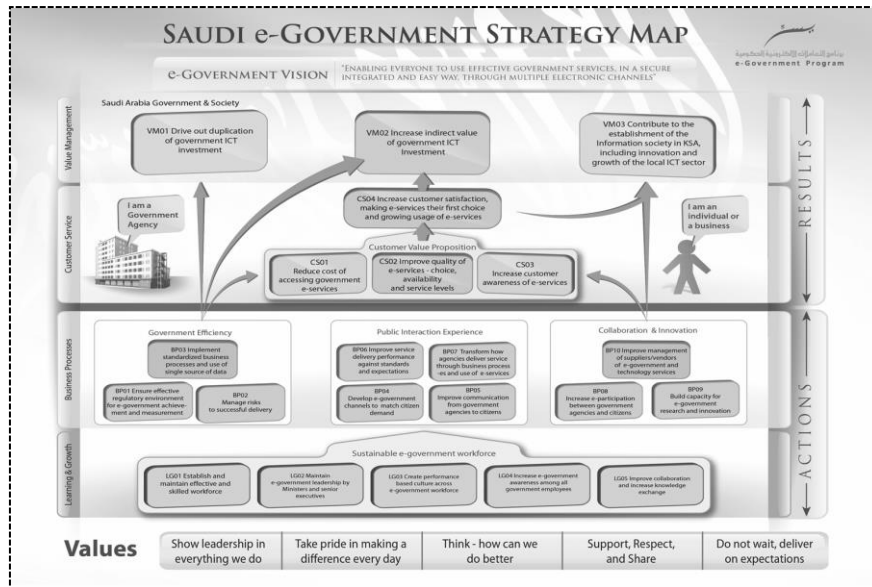


Figure 1-4: Saudi Arabia e-Government Strategy Map (Yesser.gov.sa, 2014)

## 1.4. Criteria for Success

This thesis aims to investigate e-Government evaluation models from the citizen's perspective. The success of this research is based on the following criteria and will be assessed in the final chapter:

1. Identify the important factors that contribute to e-Government services. The factors will be identified in the literature, and refined by categorizing the most important ones as they relate to the citizen
2. Develop a model that enables the evaluation of e-Government services from the citizen's perspective. The important citizen based factors identified in the literature will be combined into an evaluation model
3. Apply the model to a number of e-Government services from Saudi Arabia
4. Assess the effectiveness of the e-Government evaluation model. Once the model has been applied, it will then be evaluated against other models

## **1.5. Thesis Outline**

The thesis is structured as follows. Chapter 2, the literature survey provides an overview of e-Government in general, and e-Government evaluation models. It also shows whether these models are citizen based or government based.

In Chapter 3, the iMGov Model is defined to fill the lack of an e-Government evaluation model that concentrates on the citizen. The model is designed from two perspectives; the first perspective is evaluation from the citizen's point of view (the iMGov4C model), and the second perspective is evaluation from the expert's point of view (the iMGov4E model).

Chapter 4 presents the survey, and shows how the research model is translated into a set of questions.

Chapter 5 presents the details of the results of the surveys for different e-Services.

Chapter 6 provides the evaluation of the iMGov Model by comparing the work in this research with a related e-Government evaluation model from the citizen's perspective. It includes a discussion on the similarities and differences between the evaluation model defined in this research and other evaluation models.

Chapter 7 presents the conclusion which summarizes the research, and identifies directions for future work.

## **1.6. Summary**

In summary, this research is concerned with the evaluation of e-Government services provided to citizens, by developing a conceptual model to enable evaluation and assessment of e-Government services provided to citizens.

## **Chapter 2      Literature Review**

### **2.1.      Introduction**

This chapter will review the literature and existing e-Government evaluation models. There are a number of e-Government maturity models. Maturity models are defined as:

*“A method for judging the maturity of the processes of an organization and for identifying the key practices those are required to increase the maturity of these processes”.* (Windley, 2002)

e-Government services involve many stakeholders such as citizens and business users, government employees, information technology developers, government policy makers, public administrators and politicians (Rowley, 2011) who have their own interests, objectives and needs. A large number of models and frameworks exist to evaluate e-Government from different perspectives (Jaeger and Bertot, 2010). The objective of this chapter is to identify e-Government evaluation models and their attributes based on previous research and studies. It will also identify whether a specific model or attribute is targeting the citizen. It will discuss the shortcomings of each evaluation model from the citizen's perspective. The word “model” is used in this research and it also means framework in other researches.

### **2.2.      Definition**

There are many definitions of e-Government; one of the most well known is:

*“Electronic government refers to government's use of technology, particularly web-based Internet applications to enhance the access to and delivery of government information and services to citizens, business partners, employees, other agencies, and government entities”.* (Layne and Lee, 2001)

e-Government is defined by the World Bank as:

*“the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms*

*of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions”.*  
(Web.worldbank.org, 2014)

e-Government is defined by the United Nations as:

*“e-Government is defined as utilizing the Internet and the world-wide-web for delivering government information and services to citizens”.*  
(United Nations E-government Survey, 2014)

According to Palvia and Sharma (2007) the definition of e-Government is different from one source to another. On the other hand, there is a common theme that enables the use of information technology and the Internet to improve government services to citizens, businesses and other government agencies.

Jaeger and Bertot (2010) define e-Government as:

*“The provision of government information, services and engagement via electronic means for communications, interactions, and transactions between citizens, businesses, and government agencies”.*

Jaeger and Bertot (2010) also define citizen centred e-Government as:

*“The design and implementation of e-Government based on identified citizen expectations and needs”.*

According to Wang, Bretschneider and Gant (2005) there has been little effort from governments to evaluate e-Services’ interaction with citizens.

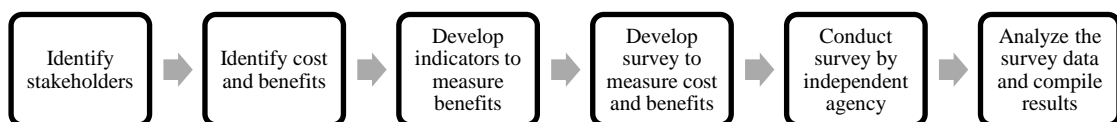
In this research e-Government is defined as:

*“Using the Internet to provide online services to citizens and seeking their satisfactions”.*

### 2.3. Background

There have been many suggestions of methods aimed at evaluating e-Government websites from different perspectives and purposes (Jaeger and Bertot, 2010). Eschenfelder *et al.* (1997) define the evaluation of e-Government websites in terms of security, privacy, and freedom of information by evaluating information content and ease of use. Huang and Chao (2001) state that e-Government websites should evaluate the usability aspects and websites should be user centred. Holliday, (2002) suggests that e-Government websites should be evaluated in terms of usefulness, for example contact information, feedback from users search and links. Hamner and Al-Qahtani (2009) explain that, for e-Government websites technology is not the only issue to make the e-Government user centred; sufficient user skills are also required to use the services.

Bhatnagar (2004) suggests independent auditing and evaluating based on best practices because there is no model, framework or method that measures the success or failure of an e-Government service. Bhatnagar adds that success is judged by media reports and recognition by international organization, but none of them ask citizens for feedback. Even if feedback is taken it is not done using a systematic based survey. Bhatnagar comments on an initiative by the World Bank's global knowledge sharing program which evaluated four successful projects in India through independent agencies. It revealed surprising results, as two of the four projects that were recognized as successes were actually shown to have been failures. Bhatnagar suggests guidelines and recommendations on how e-Government should be evaluated using different evaluation models and methods based on best practices.



**Figure 2-1: Bhatnagar's Guidelines on how e-Government should be evaluated**

Figure 2-1 shows guidelines and recommendation suggested by Bhatnagar. These broad guidelines and recommendations are only a road map and some work needs to

be done before using them; for example identifying stakeholders, identifying cost and benefits, developing indicators to measure benefits, developing a structured survey to measure cost and benefits, conducting a survey by independent agency and analysing the survey data and compiling results. Despite the fact that these guidelines are general, organizations are in charge of choosing which model or framework to use and define indicators based on that model or framework. Bhatnagar's guidelines and recommendations are summarized from this research point of view in Table 2 1.

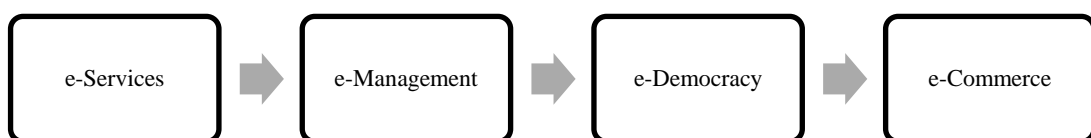
<b>Evaluation model</b>	Best practices – not defined
<b>Method</b>	Surveys, cost and benefit analysis
<b>Area</b>	General e-Government
<b>Target</b>	General- mostly organization

**Table 2-1: Bhatnagar's Study Details**

Sakowicz (2003) suggests that three questions should be considered in order to evaluate the development of e-Government as follows:

1. How should e-Government be understood?
2. What are the e-Government evaluation models in leading countries?
3. What criteria can be applied in different countries?

Sakowicz suggests that there are four top level dimensions that should be included in any e-Government evaluation model in order for it to be effective.



**Figure 2-2: Sakowicz's suggested e-Government Four Top Level Dimensions**

Figure 2-2 shows the four top level dimensions which Sakowicz suggests should be included in any effective e-Government evaluation model. These suggestions are top level; therefore, they are broad suggestions and recommendations. For example, delivering services to citizens 24/7 (e-Services), enhancing the internal process of an

e-Government organization (e-Management), increasing citizens' involvement with the organization to achieve more objectives (e-Democracy), and the business side of an e-Government organization (e-Commerce). Despite the fact that these suggestions are general, choosing an appropriate evaluation model or framework based on best practices is another issue. Sakowicz's suggestions and recommendations are summarized from the research point of view in Table 2-2.

<b>Evaluation model</b>	Best practices – not defined
<b>Method</b>	Web surveys, questionnaires, and face to face interviews
<b>Area</b>	e-Government services
<b>Target</b>	General- mostly organization

**Table 2-2: Sakowicz's Study Details**

Sakowicz suggests a combination of several methods including web surveys, questionnaires and face to face interviews for evaluating e-Government services. These methods should be divided into stages using selected examples of best practice evaluation models. Despite this, Sakowicz's suggestions and recommendations are not an evaluation model, they simply describe how to use and combine different e-Government evaluation models. Therefore, using Sakowicz's suggestions of combining different evaluation models or breaking these dimensions into small measurable attributes will enhance the evaluation model outcomes.

There is no complete evaluation model because each evaluation model uses different attributes, different methods and has different targets. The following section explains different evaluation models.

## **2.4. e-Government Evaluation**

e-Government evaluation models are developed from different perspectives and some of them either overlap or are inconsistent with each other (Siau and Long, 2004).

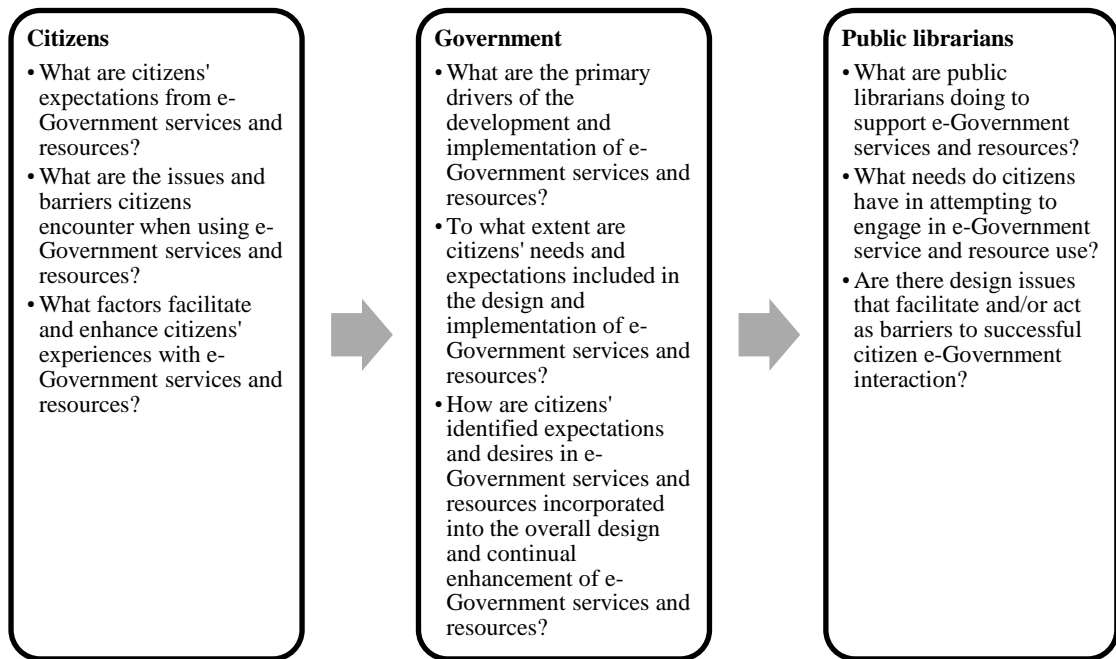
*“Citizen centred e-Government implies that governments know what citizens want from e-Government, want to meet citizen expectations and needs, and actively seek to discover what citizens want from e-Government”.* (Bertot, Jaeger and McClure, 2008)

Research by Bertot, Jaeger and McClure (2008) identifies issues associated with the development and implementation of citizen centred e-Government. The research suggests that government should have strategies in place, and provide services and resources based on actual citizens' needs in order to achieve successful citizen centred e-Government. The research was carried out to answer the following questions:

1. What are citizens' expectations from e-Government services and resources?
2. What are the issues and barriers citizens encounter when using e-Government services and resources?
3. What factors facilitate and enhance the citizens' experiences with e-Government services and resources?
4. What are the primary drivers of the development and implementation of e-Government services and resources?
5. To what extent are citizens' needs and expectations included in the design and implementation of e-Government services and resources?
6. How are citizens' identified expectations and desires, in relation to e-Government services and resources, incorporated into the overall design and continual enhancement of e-Government services and resources?
7. What are public librarians doing to support e-Government services and resources?
8. What needs do citizens have in attempting to engage in e-Government service and resource use?
9. Are there design issues that facilitate and/or act as barriers to successful citizen e-Government interaction?

Figure 2-3 shows the questions suggested by Bertot, Jaeger and McClure regarding citizen centred e-Government.





**Figure 2-3: Questions suggested by Bertot, Jaeger and McClure (2008) towards citizen centred e-Government**

The research suggests that, for governments to be citizen centred requires planning and design; for example, information and service needs assessment, technology needs assessment, determining the availability of appropriate content and services to meet citizen needs. The research emphasises the importance of considerations to the development, implementation, and continual improvement. It also emphasises that developing citizen centred e-Government is a continuous process. The research uses different methods including interviews and surveys with government, interviews with citizens engaged in e-Government services and interviews with public librarians.

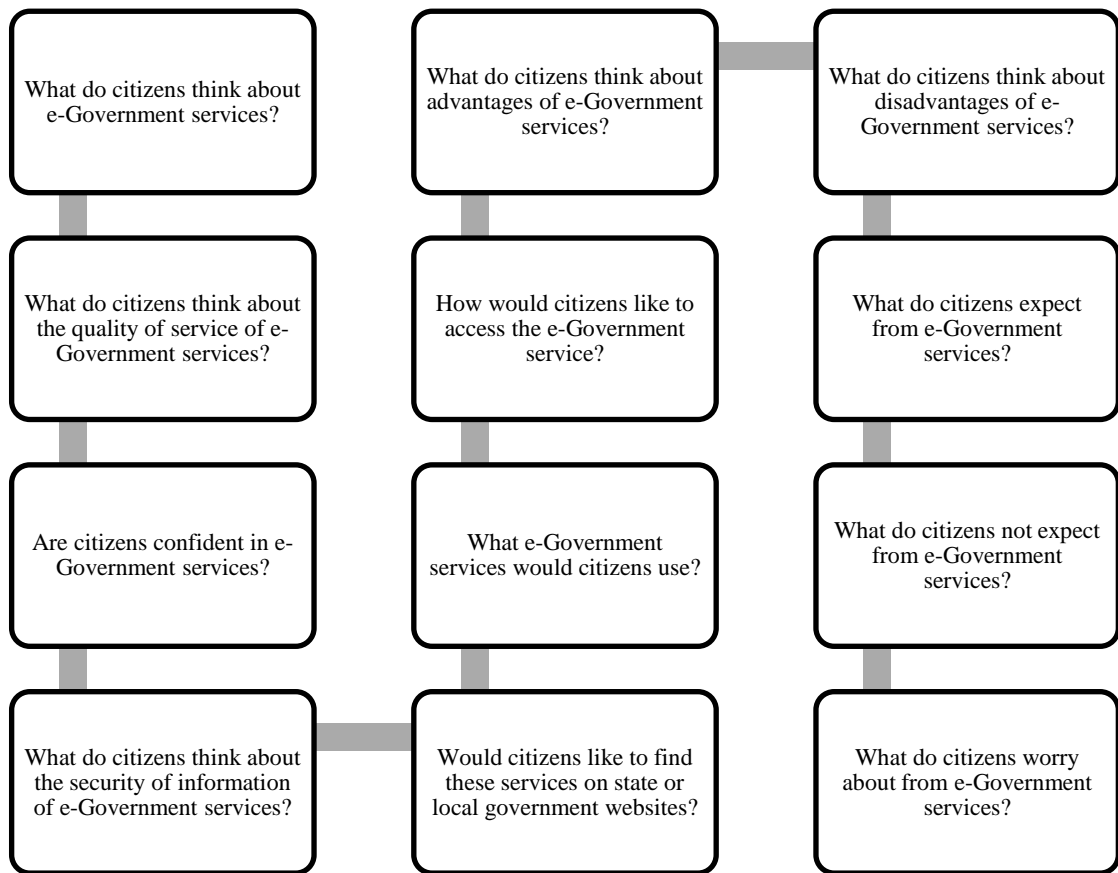
Table 2-3 summarises the investigation into e-Government by Bertot, Jaeger and McClure and the methods used in the research.

<b>Evaluation model</b>	Not defined
<b>Method</b>	Surveys, interviews
<b>Area</b>	e-Government services development and satisfaction
<b>Target</b>	General - mostly citizens

**Table 2-3: Bertot, Jaeger, and McClure Study Details**

Research was conducted in different areas of e-Government in the United States of America by the Centre for Technology in Government at the University at Albany. The research investigated how governments solicit input from citizens (Cook, 2000) and was carried out to answer the following questions:

1. What do citizens think about e-Government services?
2. What do citizens think about the quality of e-Government services?
3. Are citizens confident in e-Government services?
4. What do citizens think about the security of information of e-Government services?
5. Would citizens like to find these services on state or local government websites?
6. What e-Government services would citizens use?
7. How would citizens like to access the e-Government service?
8. What do citizens think about the advantages of e-Government services?
9. What do citizens think about the disadvantages of e-Government services?
10. What do citizens expect from e-Government services?
11. What do citizens not expect from e-Government services?
12. What do citizens worry about from e-Government services?



**Figure 2-4: e-Government Services research investigation by the Centre for Technology in Government at the University at Albany**

Figure 2-4 shows the types of question asked in e-Government services research investigation by the Centre for Technology in Government at the University at Albany. The research obtained feedback from citizens using surveys, random selection of citizens' interviews, inviting citizens to discuss their opinions and telephone interviews.

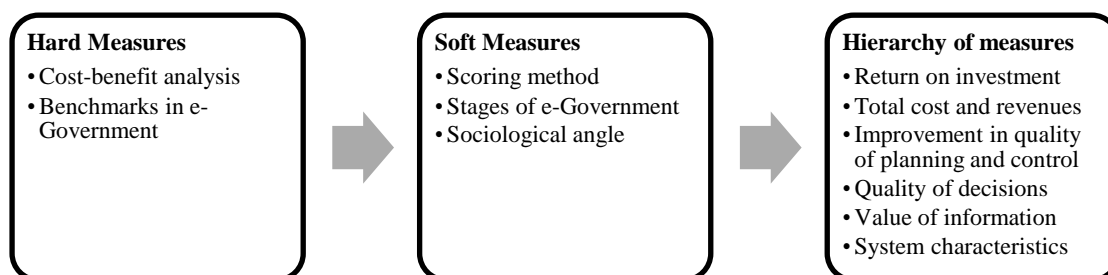
*"The movement to e-Government, at its heart, is about changing the way people and businesses interact with government". (Cook, 2000)*

Although the research concerned obtaining feedback from citizens in the United States of America, changes and modifications can be made in order to adapt the research idea for other countries. The research and the methods used in it are summarized in Table 2-4.

<b>Evaluation model</b>	Not defined
<b>Method</b>	Surveys, interviews, telephone interviews and discussion
<b>Area</b>	Satisfaction with e-Government services
<b>Target</b>	General - mostly citizens

**Table 2-4: Cook's Study Details**

A study by Gupta and Jana (2003) shows the importance of e-Government and how better results will be obtained by defining measurements and what to consider for evaluating the e-Government services. The research describes e-Government stakeholders and how they interact with each other. Furthermore, it suggests that an e-Government evaluation model should measure both tangible and intangible aspects of e-Government. The research also indicates that there are some attributes that play a primary role in the success of e-Government, for example government, people and policies. Others play a supportive role but are still important, for example, technology. However, it is important to evaluate e-Government efficiency and performance in terms of successful e-Government evaluation.



**Figure 2-5: Gupta and Jana's Four Dimensions that should be measured for assessing the effectiveness of e-Government**

Figure 2-5 shows three types of measurement suggested by Gupta and Jana which should be included in e-Government evaluation. These measures include a combination of methods, analysis and evaluation models. Table 2-5 summarises these measurements.

	Measures	Method	Target
Hard measures	<ol style="list-style-type: none"> <li>1. Examine the information technology capital investments</li> <li>2. Determine whether investments are justifiable</li> <li>3. Investment in infrastructure</li> <li>4. Investment in training</li> </ol>	Cost benefit	Infrastructure and investments
	<ol style="list-style-type: none"> <li>1. Information technology expenses as a percentage of total revenue</li> <li>2. Percentage of down time</li> <li>3. CPU usage as a percentage of total capacity</li> <li>4. Percentage of completed information system project completed on time within budget</li> </ol>	Benchmarks	Performance
Soft measures	<ol style="list-style-type: none"> <li>1. Improve decision making</li> <li>2. Citizen satisfaction</li> <li>3. Employee productivity</li> </ol>	Scoring method	Organization and citizens
	<ol style="list-style-type: none"> <li>1. Cataloguing: online presence, catalogue presentation, Downloadable forms</li> <li>2. Transaction: services and forms are online, Database to support online transaction)</li> <li>3. Vertical Integration: local system linked to higher level system within same functionality</li> <li>4. Horizontal Integration: system integrated across different functions example portals</li> </ol>	Layne and Lee the 4 stage model	Performance
	<ol style="list-style-type: none"> <li>1. Employee adaptability</li> <li>2. Responsiveness</li> <li>3. Transparency</li> <li>4. Accountability</li> <li>5. Resistance to change</li> <li>6. Regressive deployment</li> <li>7. Radical adaptation</li> </ol>	Survey	Sociological angle
	<ol style="list-style-type: none"> <li>1. Return on investment</li> <li>2. Total costs and revenues</li> <li>3. Improvement in quality of planning and control</li> <li>4. Quality of decisions</li> <li>5. Value of information</li> <li>6. System characteristics</li> </ol>	Observations	Organization

**Table 2-5: Gupta and Jana Study Details**

Gupta and Jana use a combination of several methods including cost benefit analysis, benchmarks, scoring methods, e-Government evaluation model, surveys and observation. The study shows that cost benefits analysis has some drawbacks; for example, it cannot obtain information on increased quality, faster service, flexibility, better citizen service and improved employees working conditions. In fact, the purpose of IT investment is not to reduce costs but to achieve better service and quality for citizens (Brynjolfsson and Hitt, 1998). The study uses metric benchmarking (Turban, McLean and Wetherbe, 2001) because it provides a method of evaluating performance against best practice and provides guidelines. The study was adapted to apply to government organizations in India; for example, Gupta and Jana uses benchmarks to evaluate information which exists on the website, contact information which exists on the website, downloadable forms available online and

transactions or other interaction which can take place completely online. The study also claims that defining soft measures will lead to better performance by improving decision making, citizen satisfaction and employee productivity. As for scoring methods, the study suggests identifying key performance issues and assigning weight; then the weighted average is calculated, so that a higher score is considered better services. The study uses a four stage e-Government evaluation model proposed by Layne and Lee (2001) which will be explained in the e-Government evaluation model section later in this chapter. Finally, the study includes a sociological angle to determine employee adaptability, responsiveness, transparency, accountability, resistance to change, regressive deployment, and radical adaptation through surveys. It also identifies return on investment, total cost, revenues, improvement in quality of planning and control, quality of decision, value of information and system characteristics through observation.

The case study used for the proposed evaluation model was India; therefore, some of the attributes might not be suitable if applied in other countries. The study focuses on the performance of an e-Government service using qualitative analysis, which is subjective. It can be argued that the proposed evaluation targets organizations in general and will enhance service and that will lead to better citizen satisfaction. Furthermore, lack of data is one of the obstacles that the study highlighted, so comparison cannot be made. Therefore, it is important to develop a citizen centred e-Government model.

Alshawhi and Alalwany's (2009) research classifies e-Government evaluation as technical issues, economic issues and social issues. Technical issues, include performance, which is measured by efficiency of services, personalized information and services, and accessibility, which is measured by efficient user interface, disability access, and language translation. Economic issues include cost saving and are measured by money saving, and time saving. Social issues include openness, which is measured by quality and transparency, and trust which includes trust in the Internet and trust in government organizations, and is measured by ease of use and usefulness. Figure 2-6 shows the evaluation issues proposed by Alshawhi and Alalwany.



**Figure 2-6: Alshawhi and Alalwany's proposed e-Government Evaluation Issues**

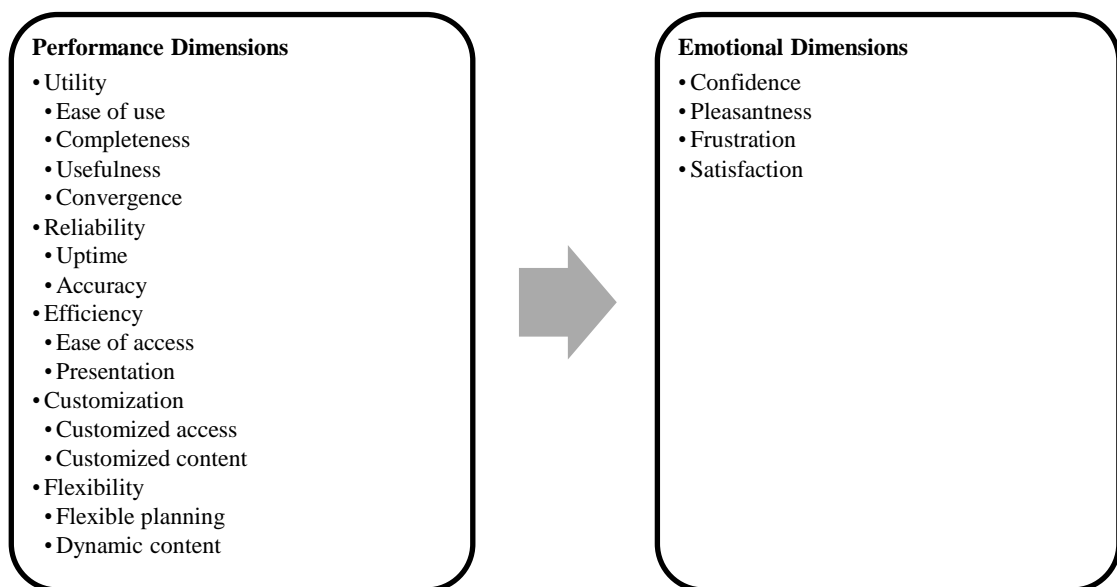
The proposed solution covers different issues in the area of e-Government services evaluation, although it is hard to evaluate due to the different data, results and perspectives different people use against a specific organization or service. Table 2-6 summarises Alshawhi and Alalwany's proposed e-Government issues in detail, together with the methods used in the research.

Issues	Factors	Measures	Evaluation	Method	Target
Technical Issues	Performance	Efficiency of services	Time spent to complete task	Measured	Organization
			Satisfaction with the outcome	Measured	Organization
		Personalized information and services	The degree the system can enable citizens to personalize information and services according to their needs	Judged	Organization and citizen
	Accessibility	Efficient user interface	The available options of user interfaces in terms of graphic interface, multi-screen interface, attentive user interface and number of user interfaces per service	Measured	Organization and citizen
		Disability access and language translation	Does the system offer disability access and foreign language translation features? Compliance with the website content accessibility guidelines	Measured	Organization and citizen
Economic Issues	Cost Saving	Money saving	How much money citizens are saving by using e-Government services	Measured	Citizen
		Time Saving	How much time citizens are saving by using e-Government services	Measured	Citizen
Social Issues	Openness	Openness	The value of information in terms of amount, quality, and transparency that government organizations provide to citizens	Measured	Citizen

	Trust	Trust in the Internet	The degree of citizens' confidence in the Internet	Measured	Organization and citizen
		Trust in government organizations	The level of security in handling information and protecting the citizens privacy	Judged	Organization and citizen
	Ease of use and usefulness	Ease of use	The level of complexity of using an e-Government service	Judged	Organization and citizen
		Usefulness	The comprehensiveness and the features of the e-Government services.	Measured	Organization and citizen

**Table 2-6: Alshawhi and Alalwany Study Details**

Horan and Abhichandani (2006) developed the EGOVSAT model to evaluate e-Government services based on citizen satisfaction. The EGOVSAT model consists of two dimensions (performance dimensions and emotional dimensions). The performance dimensions are utility, reliability, efficiency, customization and flexibility. The research focuses on three dimensions (utility, efficiency, and customization) as they affect four emotional dimensions (confidence, pleasantness, frustration and satisfaction). The research claims that the reliability and flexibility dimensions were discarded because they were not found to have significant impact on the emotional dimensions. Figure 2-7 shows the EGOVSAT model.



**Figure 2-7: EGOVSAT Model to evaluate e-Government services based on citizen satisfaction**  
**Overview**



The target of these attributes can be summarized as shown in Table 2-7. Horan and Abhichandani point out that the EGOVSAT model is designed to evaluate e-Government services from the citizen's point of view.

	<b>Measures</b>		<b>Method</b>	<b>Target</b>
<b>Performance dimensions</b>	Utility	1. Learn to use the website very quickly 2. Specify start and destination address with ease 3. The information on the website is very useful 4. Helpful features on the website to accomplish task 5. The website is consistence and provide useful information	Online survey	Citizen
	Efficiency	1. The content in the website is organized appropriately 2. The design of the website is visually pleasing 3. Various functions are well integrated	Online survey	Citizen
	Customization	1. Learn to use the website very quickly 2. Specify start and destination address with ease 3. The information on the website is very useful 4. Helpful features on the website to accomplish task	Online survey	Citizen
<b>Emotional dimensions</b>	Confidence	1. Feel very confident using the website	Online survey	Citizen
	Pleasantness	1. Feel very pleased using the website	Online survey	Citizen
	Frustration	1. The website is frustrating at some points	Online survey	Citizen
	Satisfaction	1. Completely satisfied in using the website	Online survey	Citizen

**Table 2-7: EGOVSAT Model Study Details**

Osman *et al.* (2014) classified the e-Government evaluation models into three categories: e-Government value evaluation models, e-Government success evaluation models, and e-Government service quality evaluation models. They developed a model to evaluate e-Government success from the perspective of citizen satisfaction. The model is based on cost, opportunity, benefit, and risk analysis for satisfaction (COBRAS). The research claims that the proposed evaluation model can be used to evaluate e-Government services in any country. Figure 2-8 shows the COBRAS model by Osman *et al.* (2014).



**Figure 2-8: The COBRAS Model for e-Government services' User Satisfaction**

The cost construct in the model evaluates: access time, such as: downloading time, waiting response time, searching time; post interaction time, such as time to receive confirmation of submission, waiting time to receive a service; and authorization requirements such as authorization code, associated costs, and registration with the site. The benefit construct evaluates the value of using e-Government services such as values of information quality (information availability, adequacy, accuracy, relevancy, reliability, understandability, and completeness); service quality (design, well organized website, quick delivery, accessibility, and ease of navigation); system quality (quick loads, responsive, visually attractive, adequacy of links, and well organized). The risk construct evaluates privacy risk, financial audit risk, time and technology risk, and social risk. The opportunity construct evaluates service support (ease to access at any time, flexibility in time, and flexibility in place); technological support (error corrections, up to date information, public area access, and personalized services and avoiding bureaucratic processes) (Osman *et al.*, 2014). Also, the research shows that the evaluation model can be very subjective. The proposed model can be summarized as shown in Table 2-8.

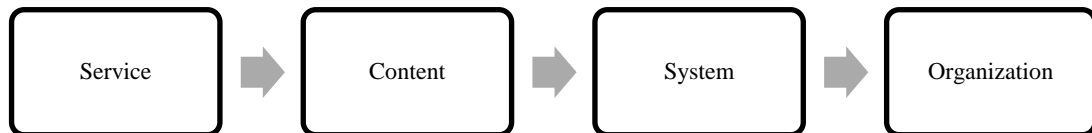
Construct	Measures		Method	Target
Cost	Access time	<ol style="list-style-type: none"> <li>1. Access time</li> <li>2. Downloading time</li> <li>3. Waiting response time</li> <li>4. Searching time</li> </ol>	Online survey	Citizen
	Post interaction time	<ol style="list-style-type: none"> <li>1. Time to receive confirmation of submission</li> <li>2. Waiting time to receive a service</li> </ol>		

	Authorization requirements	<ol style="list-style-type: none"> <li>1. Authorization code</li> <li>2. Associated costs</li> <li>3. Registration with the site</li> </ol>		
<b>Benefit</b>	Information quality	<ol style="list-style-type: none"> <li>1. Information availability</li> <li>2. Adequacy</li> <li>3. Accuracy</li> <li>4. Relevancy</li> <li>5. Reliability</li> <li>6. understandability</li> <li>7. Completeness</li> </ol>	Online survey	Citizen
	Service quality	<ol style="list-style-type: none"> <li>1. Design</li> <li>2. Well organized website</li> <li>3. Quick delivery</li> <li>4. Accessibility</li> <li>5. Ease of navigation</li> </ol>		
	System quality	<ol style="list-style-type: none"> <li>1. Quick loads</li> <li>2. Responsive</li> <li>3. Visually attractive</li> <li>4. Adequacy of links</li> <li>5. Well organized</li> </ol>		
<b>Risk</b>	Risk	<ol style="list-style-type: none"> <li>1. Privacy</li> <li>2. Financial audit</li> <li>3. Time and technology</li> <li>4. Social</li> </ol>	Online survey	Citizen
<b>Opportunity</b>	Service support	<ol style="list-style-type: none"> <li>1. Easy to access at any time</li> <li>2. Flexibility in time</li> <li>3. Flexibility in place</li> </ol>	Online survey	Citizen
	Technological support	<ol style="list-style-type: none"> <li>1. Error corrections</li> <li>2. Up to date information</li> <li>3. Public area access</li> <li>4. Personalized services</li> </ol>		
	Processes support	<ol style="list-style-type: none"> <li>1. Avoiding bureaucratic processes</li> </ol>		

**Table 2-8: COBRA Model Study Details**

Papadomichelaki *et al.* (2006) organized four areas that are related to e-Government services quality: service, content, system, and organization. The aim of

this research is to develop a quality e-Government service model in the future. The research defines three categories related to citizens: citizen satisfaction; website quality (relevancy, accuracy, completeness, appearance, navigability); and quality of service (performance, availability, reliability, and security). Figure 2-9 shows the four areas in relation to e-Government service quality suggested by (Papadomichelaki *et al.*, 2006).



**Figure 2-9: Four Areas influencing e-Government Service Quality**

The research suggests four areas divided into quality dimensions; these dimensions can be summarized as shown in Table 2-11.

Area	Measures	Target
Service	1. Accuracy 2. Time 3. Interaction 4. Personalization 5. Facilities	Citizen
Content	1. Information: <ul style="list-style-type: none"> <li>• Accuracy</li> <li>• Correctness</li> <li>• Reliability</li> <li>• Timeliness</li> <li>• Completeness</li> <li>• Relevancy</li> <li>• Easy to understand</li> <li>• Number of hyperlinks to the site</li> </ul>	Citizen
	2. Presentation: <ul style="list-style-type: none"> <li>• Structure</li> <li>• Design</li> <li>• Appearance</li> <li>• Search facilities</li> <li>• Easy to navigate</li> <li>• Easy to remember link</li> </ul>	Citizen

System	<ol style="list-style-type: none"> <li>1. Availability</li> <li>2. Accessibility</li> <li>3. System integrity</li> <li>4. Performance</li> <li>5. Reliability</li> <li>6. Interoperability</li> <li>7. Regulatory</li> <li>8. Security <ul style="list-style-type: none"> <li>• Confidentiality</li> <li>• Encrypting messages</li> <li>• Access control</li> </ul> </li> </ol>	Organization
Organization	<ol style="list-style-type: none"> <li>1. Leadership</li> <li>2. Strategy and planning</li> <li>3. Human resources</li> <li>4. Analysis and knowledge management</li> <li>5. Partnerships and resources</li> <li>6. Process management and customer focus</li> </ol>	Organization

**Table 2-9: Papadomichelaki *et al* Study Details**

A high level seminar was held by the Dubai School of Government in conjunction with the Organisation for Economic Co-operation and Development (OECD) regarding measuring and evaluating e-Government in Arab Countries. OECD and Dubai School of Government (2007) to discuss best practices, methods, and obstacles in measuring and evaluating e-Government. The study defines obstacles as:

1. Lack of clarity of objectives
2. Hard to define success
3. Private sector tools may not work for governments
4. Challenge of sharing results
5. Poor data quality
6. Lack of evaluation culture
7. Lack of evaluation methods and tools
8. High cost of data collection

Table 2-10 shows that lack of evaluation culture is the biggest obstacle in Arab countries.

Most important	Important	Somewhat important	Least important	Obstacles
6	3	0	0	Lack of evaluation culture
3	3	2	1	No common definition of costs and benefits
3	2	1	3	Lack of evaluation skills
2	3	2	2	Lack of evaluation tools
2	3	2	2	Non-availability of indicators
1	5	2	2	Difficulty in collecting data
1	0	1	6	Non-clarity of who should perform evaluation
0	1	5	2	Non-clarity on the clients of evaluation

**Table 2-10: Obstacles to e-Government Evaluation among Arab Countries (OECD and Dubai School of Government, 2007)**

Table 2-11, shows what types of Framework/method/tool are used to measure and evaluate e-Government in Arab countries.

Methods	No. of country
Official statistics	9
<i>Ad hoc</i> surveys	7
Benchmarking instruments	6
Service quality standards	6
Expert panels/citizen panels	4
Cost and benefit analysis instruments and methods	3
Focus groups	1

**Table 2-11: Most e-Government Methods Used in Arab Countries (OECD and Dubai School of Government, 2007)**

It is clear from Table 2-11, that the most important tools and methods used to evaluate e-Government in Arab countries are official statistics, *ad hoc* surveys, benchmarking and service quality standards.

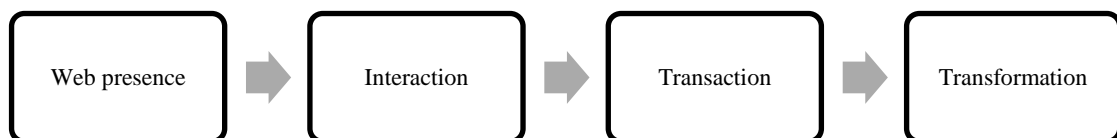
In conclusion, a number of attributes and issues that need to be addressed when evaluating e-Government have been discussed.

## 2.5. e-Government Evaluation Models

There are a number of well known e-Government evaluation models in the literature that provide the base for all other e-Government evaluation models. Several studies including Al-Khatib (2009) and Siau and Long (2004) categorize these models based on e-Government evaluation models developed by organizations and by individuals. Other research identifies models that evaluate e-Government from the development perspective (Sakowicz, 2003) or from the quality perspective (Papadomichelaki *et al.*, 2006). In addition, Osman *et al.* (2014) classify e-Government evaluation models into three categories. For example the U.S. Federal CIO Council (2002) released e-Government value measurement models that evaluate the value and the use of e-Government websites; e-Government success evaluation models to evaluate the success of an e-Government were adapted from Delone and McLean's (2003) e-Commerce success model; and e-Government service quality evaluation models that evaluate e-Government service website quality (Parasuraman, Zeithaml and Malhotra, 2005).

In this section, well-known e-Government evaluation models will be briefly introduced since they have become the foundation for e-Government evaluation models.

Gartner's model (Baum and Di Maio, 2000) consists of a four stage model; it is based on web presence, where government organization websites provide basic information to citizens; interaction, where government organization websites use email to communicate and provide downloaded documents to citizens; transaction, where government organization websites provide a full service online to citizens; and transformation, where government organization websites provide integrated and personalized services. Figure 2-10 shows Gartner's four stage model.



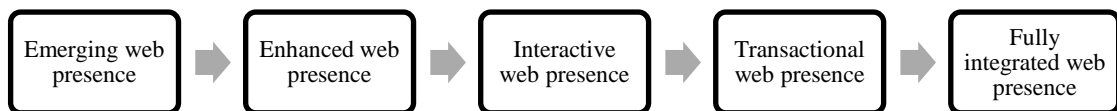
**Figure 2-10: Gartner's Four Stage Model Overview**

Gartner's four stage model can be summarized from the research point of view as shown in Table 2-12.

Stage	Measures	Target
Web presence	Provide basic information	Citizen
Interaction	1. Use email to communicate 2. Provide downloaded documents	Citizen
Transaction	Provide full service online	Citizen
Transformation	1. Provide integrated services 2. Provide personalized services	Organization and citizen

**Table 2-12: Gartner's Four Stage Model Details**

Hiller and Belanger's (2001) model consists of a five stage model; it is based on emerging web presence, where government organization websites provide basic information to citizens; enhanced web presence, where government organization websites provide more dynamic and updated information to citizens; interactive web presence, where government organization websites use email to communicate and provide downloaded documents to citizens; transactional web presence, where government organization websites provide a full service online to citizens; and fully integrated web presence, where government organization websites provide integrated and personalized services. Figure 2-11 shows Hiller and Belanger's five stage model.



**Figure 2-11: Hiller and Belanger's Five Stage Model Overview**

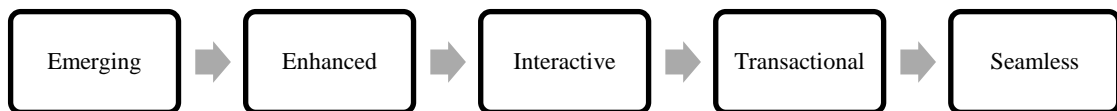
Hiller and Belanger's model can be summarized from the research point of view as shown in Table 2-13.



Stage	Measures	Target
Emerging web presence	Provide basic information	Citizen
Enhanced web presence	1. Provide more dynamic information 2. Provide updated information	Citizen
Interactive web presence	1. Use email to communicate 2. Provide downloaded documents	Citizen
Transactional web presence	Provide full service online to citizens	Citizen
Fully integrated web presence	1. Provide integrated and services 2. Provide personalized services	Organization and citizen

**Table 2-13: Hiller and Belanger's Five Stage Model Details**

The United Nations and American Society for Public Administration (2001) suggested a similar model to that of Hiller and Belanger (2001) with minor changes. This is a five stage model which focuses on e-Government website public service efficiency; it is based on emerging web presence, where government organization websites exist; enhanced presence, where government organization websites provide more dynamic and updated information; interactive presence, where citizens can communicate and interact; transactional presence, where citizens can pay for services online and interact; and seamless presence, where government organization websites provide full integration of e-Government services across the organization. Figure 2-12 shows the United Nations and American Society for Public Administration's five stage model.



**Figure 2-12: United Nations and American Society for Public Administration's Five Stage Model Overview**

The United Nations and American Society for Public Administration model can be summarized from the research point of view as shown in Table 2-14.

Stage	Measures	Target
Emerging	Government organization website exists	Citizen
Enhanced	1. Government organization website provides more dynamic information 2. Government organization website provides updated information	Citizen
Interactive	Citizens can communicate and interact through the government organization's website	Citizen

Transactional	1. Citizens can pay for services online 2. Citizens interact through the government organization's website	Citizen
Seamless	Government organization's website provides full integration of e-Government services across the organization	Organization

**Table 2-14: United Nations and American Society for Public Administration's Five Stage Model Details**

According to a United Nations e-Government Survey the United Nations model adopted a holistic view of e-Government development and readiness, (United Nations e-Government Survey, 2014) considering three dimensions: the availability of online services, telecommunication infrastructure, and human capacity.

Deloitte and Touche (2001) based their six stage model, which focuses on citizens, on publishing information, where e-Government organizations provide citizens with access; two way transaction, where e-Government organizations interact with citizens; portals, where e-Government organizations have a single point of contact; personalization, where e-Government organizations enable citizens to personalize the portals based on their needs; clustering of common services, where e-Government organizations provide enhanced services and reduce the operational processes; and full integration, where e-Government organizations provide a personalized, fully integrated, single point of contact. Figure 2-13 shows Deloitte and Touche's six stage model.



**Figure 2-13: Deloitte and Touche's Six Stage Model Overview**

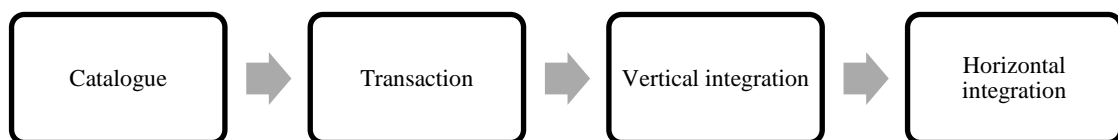
Deloitte and Touche's model can be summarized from the research point of view as shown in Table 2-15.

Stage	Measures	Target
Information publishing	Provide citizens with access to information	Citizen
Two way transaction	Interaction with citizens	Citizen
Portals	e-Government organizations have a single point of contact	Citizen
Personalization	Enable citizens to personalize the portals based on their needs	Citizen

Clustering of common services	1. Provide enhanced services 2. Reduce the operational processes	Organization
Full integration	1. Provide personalized 2. Fully integrated 3. Single point of contact	Organization

**Table 2-15: Deloitte and Touche's Six Stage Model Details**

Layne and Lee's (2001) model consists of four stages that focus on technical, organizational and managerial feasibility. It is based on a catalogue, where e-Government websites include basic, static information; transaction, where e-Government websites include simple online transactions; vertical integration, where e-Government websites integrate with other e-Government services; and horizontal integration, where e-Government websites integrate with other e-Government services in separate systems. Figure 2-14 shows Layne and Lee's four stage model.



**Figure 2-14: Layne and Lee's Four Stage Model Overview**

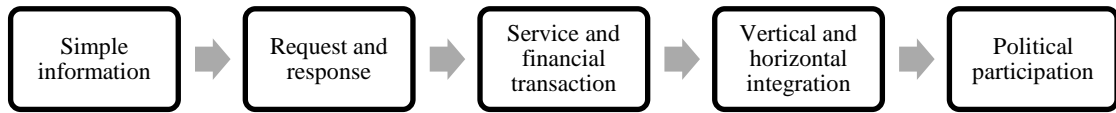
Layne and Lee's model can be summarized from the research point of view as shown in Table 2-16.

Stage	Measures	Target
Catalogue	e-Government website includes basic, and static information	Organization
Transaction	e-Government website includes simple online transactions	Organization
Vertical integration	e-Government website integrated with other e-Government services	Organization
Horizontal integration	e-Government website integrated with other e-Government services in separate systems	Organization

**Table 2-16: Layne and Lee's Four Stage Model Details**

Moon's (2002) model extends Layne and Lee's (2001) model with a new stage (Siau and Long, 2004). Moon's model consists of five stages that focus on technical, organizational, managerial feasibility, and political; the model is based on simple information, where e-Government websites provide one way communication; request and response, where e-Government websites provide two way communication; service and financial transaction, where e-Government websites provide service and

financial transaction online; vertical and horizontal integration, where e-Government websites integrate with other e-Government services and with other e-Government services in separate systems; political participation, where e-Government websites use services such as online voting. Figure 2-15 shows Moon's five stage model.



**Figure 2-15: Moon Five Stage Model Overview**

Moon's model can be summarized from the research point of view as shown in Table 2-17.

Stage	Measures	Target
Simple information	e-Government website provide one way communication	Organization
Request and response	e-Government website provide two way communication	Organization
Service and financial transaction	e-Government website provide service and financial transaction online	Organization
Vertical and horizontal integration	e-Government website integrate with other e-Government services, and with other e-Government services in separate systems	Organization
Political participation	e-Government website uses services such as online voting	Organization

**Table 2-17: Moon's Five Stage Model Details**

## 2.6. Summary

In summary, the literature review has shown that models exist for evaluating e-Government; each model evaluates it from different perspectives. For example, some models evaluate the e-Government process; other models evaluate e-Government service; others evaluate a combination of process, and service. Some e-Government evaluation models target governments; for example, they evaluate government organizations' readiness, development, infrastructure, and quality. Other e-Government evaluation models target citizens with an indirect approach, by putting pressure on government organizations to enhance their online services in order to provide better services to citizens. This research is concerned with evaluating e-Government services provided to citizens by developing an e-Government evaluation

model from the citizen's point of view. The selected e-Government evaluation models from the literature are summarized in Table 2-18.

Literature	Outcome	Measures
Eschenfelder <i>et al.</i> (1997)	Recommendations	1. Security 2. Privacy 3. Freedom of information
Huang and Chao (2001)	Recommendations	1. Usability 2. User centred websites
Holliday (2002)	Recommendations	1. Usefulness
Hamner and Al-Qahtani (2009)	Recommendations	1. User centred 2. Sufficient user skills
Bhatnagar (2004)	Recommendations	1. Identify stakeholders 2. Identify costs and benefits 3. Develop indicators to measure benefits 4. Develop survey to measure costs and benefits 5. Conduct survey by independent agency 6. Analyse the survey data and compile results
Sakowicz, (2003)	Recommendations	1. e-Services 2. e-Management 3. e-Democracy 4. e-Commerce
Bertot, Jaeger and McClure, (2008)	Questions	1. Citizens 2. Government 3. Citizens' identified expectations incorporated into the overall design 4. Public librarians
Cook (2000)	Questions	1. Citizens thought about e-Services 2. Citizens thought about the quality of service 3. Citizens confidence in e-Services 4. Citizens thought about the security of information 5. Citizens like to find these e-Services on state or local government websites 6. e-Services citizens would use 7. How citizens would like to access the e-Service 8. Citizens' advantages of using the e-Services 9. Citizens' disadvantages of using e-Services 10. Citizens' expectations from using e-Services 11. What citizens do not to expect from using e-Services 12. Citizens' worries from using e-Services
Gupta and Jana (2003)	Model	1. Hard Measures 2. Soft Measures 3. Hierarchy of measures
Alshawi and Alalwany (2009)	Model	1. Technical Issues 2. Economic Issues 3. Social Issues
EGOV SAT model (Horan and Abhichandani, 2006)	Model	1. Performance Dimensions 2. Emotional Dimensions
COBRA model (Osman <i>et al.</i> , 2014)	Model	1. Cost 2. Benefit 3. Risk 4. Opportunity 5. Satisfaction

Papadomichelaki <i>et al.</i> (2006)	Model	<ol style="list-style-type: none"> <li>1. Service</li> <li>2. Content</li> <li>3. System</li> <li>4. Organization</li> </ol>
Gartner model (Baum and Di Maio, 2000)	Process	<ol style="list-style-type: none"> <li>1. Web presence</li> <li>2. Interaction</li> <li>3. Transaction</li> <li>4. Transformation</li> </ol>
Hiller and Belanger (2001)	Process	<ol style="list-style-type: none"> <li>1. Emerging web presence</li> <li>2. Enhanced web presence</li> <li>3. Interactive web presence</li> <li>4. Transactional web presence</li> <li>5. Fully integrated web presence</li> </ol>
United Nations and American Society for Public Administration (2001)	Process	<ol style="list-style-type: none"> <li>1. Emerging</li> <li>2. Enhanced</li> <li>3. Interactive</li> <li>4. Transactional</li> <li>5. Seamless</li> </ol>
Deloitte and Touche (2001)	Process	<ol style="list-style-type: none"> <li>1. Information publishing</li> <li>2. Two way transaction</li> <li>3. Portals</li> <li>4. Personalization</li> <li>5. Clustering of common services</li> <li>6. Full integration</li> </ol>
Layne and Lee (2001)	Process	<ol style="list-style-type: none"> <li>1. Catalogue</li> <li>2. Transaction</li> <li>3. Vertical integration</li> <li>4. Horizontal integration</li> </ol>
Moon (2002)	Process	<ol style="list-style-type: none"> <li>1. Simple information</li> <li>2. Request and response</li> <li>3. Service and financial transaction</li> <li>4. Vertical and horizontal integration</li> <li>5. Political participation</li> </ol>

**Table 2-18: Literature Summary on e-Government Evaluation Models**

Table 2-19 shows the literature summary based on the year and the outcome. It shows that during 2000-2002 the research was concerned with Process and from 2003 onwards some attempt was made to develop evaluation models.

Literature	Year	Outcome
Eschenfelder <i>et al</i>	1997	Recommendations
Gartner model (Baum and Di Maio)	2000	Process
Cook	2000	Questions
Hiller and Belanger	2001	Process
United Nations and American Society for Public Administration	2001	Process
Deloitte and Touche	2001	Process
Layne and Lee	2001	Process

Moon	2002	Table 2-19Process
Huang and Chao	2001	Recommendations
Holliday	2002	Recommendations
Gupta and Jana	2003	Model
Sakowicz	2003	Recommendations
Bhatnagar	2004	Recommendations
Papadomichelaki <i>et al</i>	2006	Model
EGOV SAT model (Horan and Abhichandani)	2006	Model
Bertot, Jaeger and McClure	2008	Questions
Hamner and Al- Qahtani	2009	Recommendations
Alshawi and Alalwany	2009	Model
COBRA model (Osman <i>et al</i> )	2014	Model

**Table 2-19: Literature Summary by Year and outcome**

The research surveyed can be categorized into four types:

1. Recommendations: Set of issues to be considered when evaluating e-Government services
2. Questions: Set of questions to be asked when evaluating e-Government services
3. Models: Set of measurable criteria to be identified in order to evaluate e-Government services
4. Process: Set of steps to be followed to show the current status of an e-Government services

Finally, issues related to the shortcomings of e-Government evaluation need to be addressed as follows:

1. There is a lack of substantive evaluation models; most of the literature consists of recommendations, questions, or process to be followed

2. There is a lack of clear objectives; most of the literature claims to be citizen centred but in reality it evaluates e-Government without considering citizens' feedback
3. It is difficult to define success of the e-Government evaluation model
4. It is difficult to define results since most evaluation models do not share their results
5. There is a lack of evaluation culture from organizations' and citizens' perspectives
6. There is a gap between e-Government services as promised, and e-Government services as delivered

Table 2-20 shows the factors used in each e-Government evaluation model from the literature.

	Accessibility	Availability	Flexibility	Usability	Performance	Time	Website content	System	Support	Organization	Satisfaction	Order experience	Service quality
Eschenfelder <i>et al.</i> (1997)	√		√	√			√						√
Huang and Chao (2001)				√									
Holliday (2002)	√						√					√	
Hamner and Al-Qahtani (2009)													
Bhatnagar (2004)													
Sakowicz, (2003)													
Bertot, Jaeger and McClure, (2008)												√	√
Cook (2000)											√		
Gupta and Jana (2003)								√					
Alshawhi and Alalwany (2009)	√	√		√	√	√							
EGOV SAT model (Horan and Abhichandani, 2006)	√		√									√	
COBRA model (Osman <i>et al.</i> , 2014)						√			√			√	√
Papadomichelaki <i>et al.</i> (2006)							√	√		√			

**Table 2-20: e-Government Evaluation Models Literature Summary**



e-Government evaluation models literature Summary in details is shown in Appendix A page 129.

## **Chapter 3            The iMGov Model**

### **3.1.            Introduction**

Electronic Government (e-Government) is of great importance in facilitating, and providing electronic services (e-Services) online to citizens. Governments face many obstacles, including the notable absence of evaluation and assessment of their e-Services from the citizen's perspective. Therefore, finding ways of evaluating their e-Services is crucial in order to achieve better results which will lead to higher citizen satisfaction. This research concentrates on evaluating e-Government services (e-Services) provided to citizens through the development of a new citizen centred model (the iMGov Model). The name iMGov comes from "I am evaluating e-Government". The main aspect of developing an evaluation model is to consider citizens, and it will work as a guideline to help e-Government organizations evaluate their e-Services' strengths and weaknesses.

### **3.2.            The iMGov Model**

The literature review showed that there are existing evaluation models but each has its drawbacks. As a result, the iMGov Model was developed to address the identified shortcomings and to provide a new way of evaluating e-Government services (e-Services) from the citizen's perspective.

The iMGov Model will provide a method of assessing e-Services in terms of evaluating the whole service cycle, from the beginning when the citizen places an order for e-Service to the end when the order is delivered, in terms of citizen satisfaction. However, reviews and citizens' feedback can easily become more subjective than objective if not understood and analysed effectively. This research will clearly define the objectives of the evaluation through the use of the iMGov Model in terms of analysing citizens' feedback in depth.

The iMGov Model is categorized into phases, attributes, and factors. This is the standard way of devising a model by breaking it down into phases, attributes, and factors. The attributes and factors are derived from the literature. All the factors considered directly relevant to the Citizen were included as shown in Table 2-20. An

example of a factor not included is that of e-Democracy because it does not directly relate to the Citizen and amenable to measurement,

e-Government services (e-Services) will be classified and evaluated in terms of phases; in the iMGov Model three phases are defined: Placing an Order, Processing an Order, and Delivering an Order; the Phase (P) is defined as:

*“The stage of an e-Government service (e-Service) to be evaluated; that shares the same characteristics in the same time frame”.*

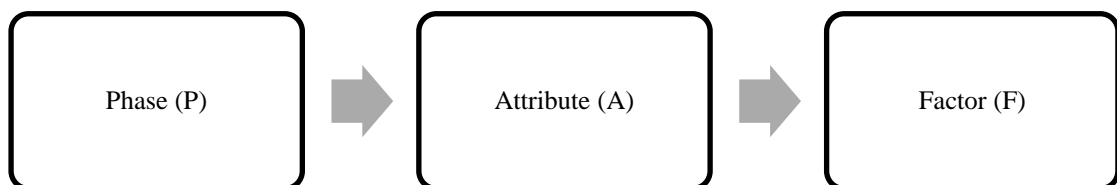
Each Phase is expanded into a set of attributes and described in terms of path, definition, importance, and factors. An Attribute (A) is defined as:

*“Feature that contribute to the Phase”.*

Each Attribute is expanded into a set of factors, and described in terms of a question and the possible values for the given responses; the Factor (F) is defined as:

*“Evaluation indicator that contributes to the Attribute”.*

A particular Factor (F0) is specified that gives an overall evaluation of the Phase. Figure 3-1 shows the iMGov Model classification.



**Figure 3-1: The iMGov Model (Classification)**

The iMGov Model uses an equal weighting scale for all the factors because it was decided that no one factor was more important than any other. Thus a scale of (2, 1, and 0) was used throughout the model.

### 3.2.1. The iMGov Model Perspectives

e-Service will be classified and evaluated from two perspectives; the Citizen (C), and the Expert (E); therefore, the iMGov Model consists of two sub models; the iMGov for Citizen Model (iMGov4C), where the evaluation is given by the citizen; and the iMGov for Expert Model (iMGov4E), where the evaluation will be given by the expert for more in depth evaluation of a specific e-Service. Each sub model is based on the iMGov Model classification, and will therefore have its own phases, attributes, and factors. Figure 3-2 shows the iMGov model perspectives.

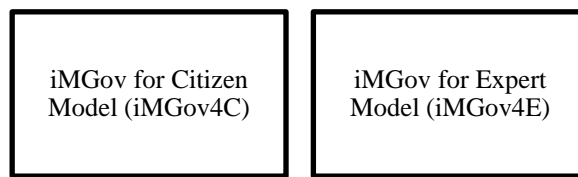


Figure 3-2: The iMGov Model (Perspectives)

### 3.3. The iMGov for Citizen (iMGov4C) Model

The iMGov4C Model is the evaluation by the citizen to measure and evaluate a specific e-Government service (e-Service); a Citizen is considered to be a person who uses e-Government services and is able to evaluate a specific e-Service without any experience of how it is implemented. The iMGov4C consists of three phases (Placing an Order, Processing an Order, and Delivering an Order) as shown in Figure 3-3.

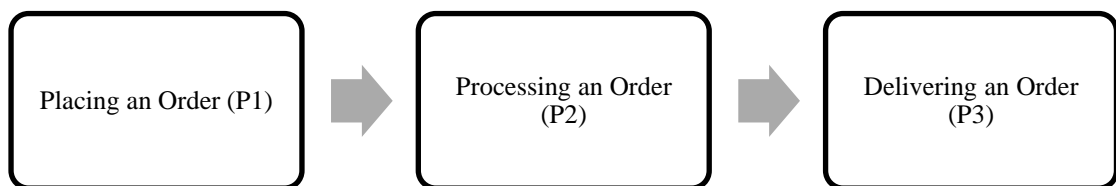


Figure 3-3: The iMGov4C Model Phases

The notion of a path is used to show which Factor (F) belong to what Attribute (A) in a Phase (P); for example, iMGov4C/P1/A1/F1 means Factor 1 (is the e-Government service accessible?) of Attribute 1 (Accessibility) for Phase 1 (Placing an Order) in the iMGov4C (iMGov for Citizen) Model.

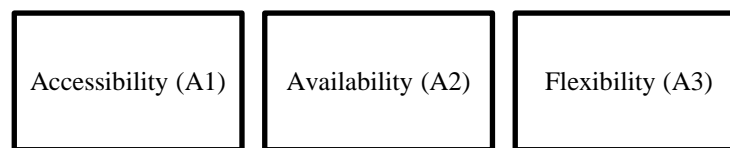
### 3.3.1. iMGov4C Placing an Order Phase

A particular Factor (F0) is specified that gives an overall evaluation of the Placing an Order Phase (P1). Table 3-1 shows the Factor 0 details for Phase 1 in iMGov4C.

(F0) Are you satisfied with placing your online order?	Satisfied=2	Neutral=1	Unsatisfied=0
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**Table 3-1: iMGov4C/P1/F0 Details**

Three attributes are defined for this Phase: Accessibility, Availability, and Flexibility. Figure 3-4 shows attributes included in this Phase.



**Figure 3-4: iMGov4C/P1 Attributes**

Accessibility is described in terms of path, definition, importance, and factors; a set of factors defined in terms of a question, and the possible values for the given responses. Table 3-2 shows Accessibility Attribute details for Phase 1 in iMGov4C.

Accessibility (A1)			
<b>Path</b>	iMGov4C/P1/A1		
<b>Definition</b>	Evaluate e-Government service accessibility, by citizen at the time of placing an order		
<b>Importance</b>	Accessing an e-Government service information and functionality at any time by citizen is important to make it successful		
<b>Factors</b>	(F1) Is the e-Government service accessible?	Yes=2	No=0
	(F2) Can the e-Government service be reached by different channels? (online, in person, by phone, or at a self service kiosk)	Yes=2	No=0
	(F3) Are there difficulties in placing an order?	Yes=2	No=0

**Table 3-2: iMGov4C/P1/A1 Accessibility Details**

Availability Attribute details for Phase 1 in iMGov4C are shown in Table 3-2.

Availability (A2)			
<b>Path</b>	iMGov4C/P1/A2		
<b>Definition</b>	Evaluate e-Government service availability to citizens at the time of placing an order		
<b>Importance</b>	e-Government service availability at any time to citizens is important to make it successful		
<b>Factors</b>	(F1) Is the e-Government service available (at any time)?	Yes=2	No=0
	(F2) Experiencing downtime time including maintenance while placing an order	Yes=0	No=2

Availability (A2)			
	(F3) Are there difficulties in reaching e-Service	Yes=0	No=2

**Table 3-3: iMGov4C/P1/A2 Availability Details**

Flexibility Attribute details for Phase 1 in iMGov4C are shown in Table 3-4.

Flexibility (A3)			
<b>Path</b>	iMGov4C/P1/A3		
<b>Definition</b>	Evaluate e-Government service flexibility in terms of payment options, and using different channels		
<b>Importance</b>	e-Government service flexibility offer different choices for citizens to place order is important to make it successful		
<b>Factors</b>	(F1) Is the e-Government service flexible?	Yes=2	No=0
	(F2) Does the e-Government service have different payment methods?	Yes=2	No=0
	(F3) Do you prefer to achieve your objective online, or in person?	Online=2	In Person=0

**Table 3-4: iMGov4C/P1/A3 Flexibility Details**

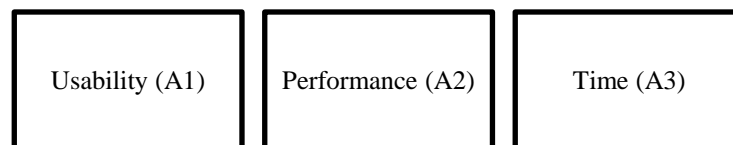
### 3.3.2. iMGov4C Processing an Order Phase

A particular Factor (F0) is specified that gives an overall evaluation of the Processing an Order Phase (P2). Table 3-5 shows the Factor 0 details for Phase 1 in iMGov4C.

(F0) Are you satisfied with processing your online order?	Satisfied=2	Neutral=1	Unsatisfied=0
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**Table 3-5: iMGov4C/P2/F0 Details**

Three attributes are defined for this Phase: Usability, Performance, and Time. Figure 3-5 shows attributes included in this Phase.



**Figure 3-5: iMGov4C/P2 Attributes**

Usability Attribute details for Phase 2 in iMGov4C are shown in Table 3-6.

Usability (A1)	
<b>Path</b>	iMGov4C/P2/A1
<b>Definition</b>	Evaluate e-Government service usability in terms of ease of use, understanding, and

	consideration to citizens		
<b>Importance</b>	e-Government service usability is important because it attracts citizen to use the e-Service		
<b>Factors</b>	(F1) Is the e-Government service website easy to use?	Yes=2	No=0
	(F2) Is the e-Government service website easy to understand?	Yes=2	No=0
	(F3) Is the e-Government service website easy to navigate?	Yes=2	No=0

**Table 3-6: iMGov4C/P2/A1 Usability Details**

Performance Attribute details for Phase 2 in iMGov4C are shown in Table 3-7.

<b>Performance (A2)</b>				
<b>Path</b>	iMGov4C/P2/A2			
<b>Definition</b>	e-Government service performance in terms of speed of processing an order			
<b>Importance</b>	e-Government service performance is an essential attribute that will help to increase the use of online e-Government services, and will lead to better citizen satisfaction			
<b>Factors</b>	(F1) How would you rate the e-Government service performance?	Good=2	Neutral=1	Bad=0
	(F2) Is the performance of the e-Government service fast or slow?	Fast=2	Neutral=1	Slow=0
	(F3) Does the technical support increase the performance of the e-Service?	Yes=2		No=0

**Table 3-7: iMGov4C/P2/A2 Performance Details**

Time Attribute details for Phase 2 in iMGov4C are shown in Table 3-8.

<b>Time (A3)</b>				
<b>Path</b>	iMGov4C/P2/A3			
<b>Definition</b>	Evaluate e-Government service in terms of the time taken to process an order			
<b>Importance</b>	Time of processing e-Government service order will affect the citizen			
<b>Factors</b>	(F1) Did the use of the e-Government service save you time?	Yes=2		No=0
	(F2) How satisfied are you with the time taken to process your order?	Satisfied=2	Neutral=1	Unsatisfied=0
	(F3) Are you satisfied with the processing time?	Yes=2		No=0

**Table 3-8: iMGov4C/P2/A3 Time Details**

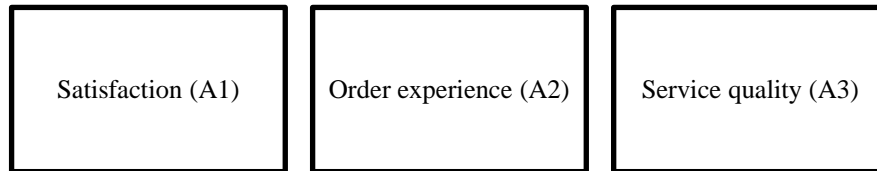
### 3.3.3. iMGov4C Delivering an Order Phase

A particular Factor (F0) is specified that gives an overall evaluation of the Delivering an Order Phase (P3). Table 3-9 shows the Factor 0 details for Phase 1 in iMGov4C.

(F0) Are you satisfied with delivering your online order?	Satisfied=2	Neutral=1	Unsatisfied=0
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**Table 3-9: iMGov4C/P3/F0 Details**

Three attributes are defined for this Phase: Satisfaction, Order experience, and Service quality. Figure 3-6 shows attributes included in this Phase.



**Figure 3-6: iMGov4C/P3 Attributes**

Satisfaction Attribute details for Phase 3 in iMGov4C are shown in Table 3-10.

Satisfaction (A1)				
<b>Path</b>	iMGov4C/P3/A1			
<b>Definition</b>	Evaluate e-Government service in terms of how the organization provides services and meets citizens' expectations			
<b>Importance</b>	Citizen satisfaction is the most important attribute that effect e-Government service			
<b>Factors</b>	(F1) Are you satisfied with the online e-Government service	Yes=2		No=0
	(F2) Are you satisfied with the organization's response	Satisfied=2	Neutral=1	Unsatisfied=0
	(F3) How likely would you be to use the online e-Government service	Likely=2	Neutral=1	Not Likely=0

**Table 3-10: iMGov4C/P3/A1 Satisfaction Details**

Order experience Attribute details for Phase 3 in iMGov4C are shown in Table 3-11.

Order experience (A2)				
<b>Path</b>	iMGov4C/P3/A2			
<b>Definition</b>	Evaluate citizens' experiences from using e-Government services, and how frequently they will use the service in the future			
<b>Importance</b>	The ability to deliver great experience for citizens			
<b>Factors</b>	(F1) How would you rate your online order experience overall?	Good=2	Neutral=1	Bad=0
	(F2) Using online e-Government service saved you time	Yes=2		No=0
	(F3) Using online e-Government service saved you effort	Yes=2		No=0

**Table 3-11: iMGov4C/P3/A2 Order experience Details**

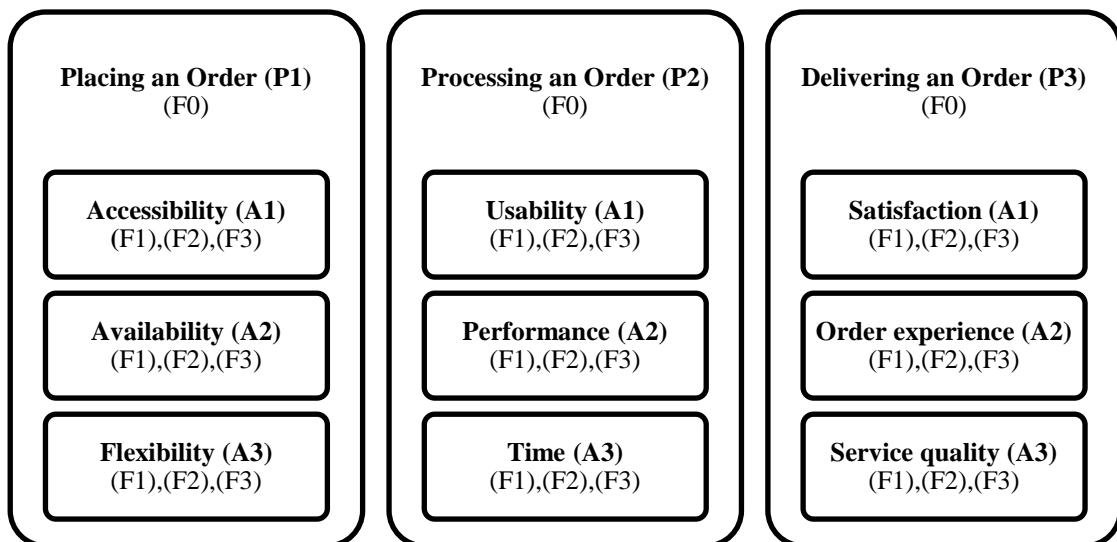
Service quality Attribute details for Phase 3 in iMGov4C are shown in Table 3-12.



<b>Service quality (A3)</b>			
<b>Path</b>	iMGov4C/P3		
<b>Definition</b>	Evaluate e-Service quality, and how it is seen by the citizen		
<b>Importance</b>	The service quality is an important attribute for gaining citizen satisfaction		
<b>Factors</b>	(F1) Does the e-Government service seem to be trusted?	Yes=2	No=0
	(F2) Does the e-Government service seem to be secure?	Yes=2	No=0
	(F3) Does the e-Government service offer a clear explanation, and guidance for its use?	Yes=2	No=0

**Table 3-12: iMGov4C/P3/A3 Service quality Details**

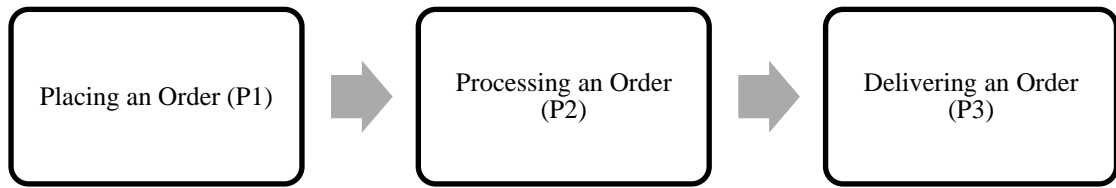
In summary, iMGov4C consists of, three phases, nine attributes, and 30 factors that evaluate different aspects of e-Government service from the citizen's perspective. Figure 3-7 the iMGov4C Model is shown in detail.



**Figure 3-7: The iMGov4C Model Details**

### 3.4. The iMGov for Expert Model (iMGov4E)

The iMGov4E model is the evaluation given by the expert to measure and evaluate a specific e-Government service (e-Service). An Expert is considered to be an experienced person in the field of e-Government, who is able to evaluate a specific e-Service. The iMGov4E consists of three phases, as in the iMGov4C model (Placing an Order, Processing an Order, and Delivering an Order) as shown in Figure 3-8. The iMGov4E will include more attributes and factors that are not covered by the iMGov4C specifically in the Processing an Order Phase.



**Figure 3-8: The iMGov4E Model Phases**

The notion of a path is used to show which Factor (F) belongs to which Attribute (A) in a Phase (P); for example, iMGov4E/P1/A1/F1 means Factor 1 (is the e-Government service accessible?) of Attribute 1 (Accessibility) for Phase 1 (Placing an Order) in the iMGov4E (iMGov for Expert) Model.

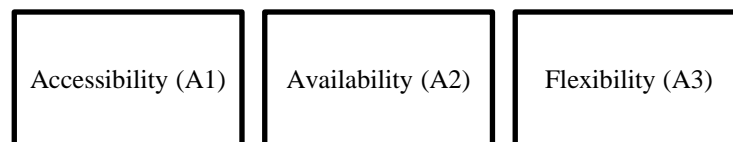
### 3.4.1. iMGov4E Placing an Order Phase

A particular Factor (F0) is specified that gives an overall evaluation of the Placing an Order Phase (P1). Table 3-13 shows the Factor 0 details for Phase 1 in iMGov4E.

(F0) How satisfied is the citizen with placing an online order?	Satisfied= 2	Neutral= 1	Unsatisfied= 0
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**Table 3-13: iMGov4E/P1/F0 Details**

Three attributes are defined for this Phase: Accessibility, Availability, and Flexibility. Figure 3-9 shows attributes included in this Phase.



**Figure 3-9: iMGov4E/P1 Attributes**

Accessibility is described in terms of path, definition, importance, and factors; a set of factors is defined in terms of a question, and the possible values for the given responses. Table 3-14 shows Accessibility Attribute details for Phase 1 in iMGov4E.

Accessibility (A1)			
<b>Path</b>	iMGov4E/P1/A1		
<b>Definition</b>	Evaluate e-Government service accessibility by expert at the time of placing an order		
<b>Importance</b>	Accessing an e-Government service information and functionality at any time by the citizen is important to make it successful		
<b>Factors</b>	(F1) Is the e-Government service accessible?	Yes=2	No=0
	(F2) Can the e-Government service be reached by different channels? (online, in person, by phone, or self service kiosk)	Yes=2	No=0
	(F3) Are there difficulties in placing an online order?	Yes=2	No=0

**Table 3-14: iMGov4E/P1/A1 Accessibility Details**

Availability Attribute details for Phase 1 in iMGov4E are shown in Table 3-15.

Availability (A2)			
<b>Path</b>	iMGov4E/P1/A2		
<b>Definition</b>	Evaluate e-Government service availability to citizens at the time of placing an order		
<b>Importance</b>	e-Government service availability at any time to citizens is important to make it successful		
<b>Factors</b>	(F1) Is the e-Government service available at any time?	Yes=2	No=0
	(F2) Are there difficulties in reaching the e-Service?	Yes=0	No=2
	(F3) Experiencing downtime (including maintenance) while placing an order	Yes=0	No=2

**Table 3-15: iMGov4E/P1/A2 Availability Details**

Flexibility Attribute details for Phase 1 in iMGov4E are shown in Table 3-16.

Flexibility (A3)			
<b>Path</b>	iMGov4E/P1/A3		
<b>Definition</b>	Evaluate e-Government service flexibility in terms of payment options, and using different channels		
<b>Importance</b>	e-Government service flexibility offering different choices for citizens to place order is important to make it successful		
<b>Factors</b>	(F1) Is the e-Government service flexible?	Yes=2	No=0
	(F2) Does the e-Government service have different payment methods?	Yes=2	No=0
	(F3) Does the citizen prefer to achieve their objective online or in person?	Online=2	In Person=0

**Table 3-16: iMGov4E/P1/A3 Flexibility Details**

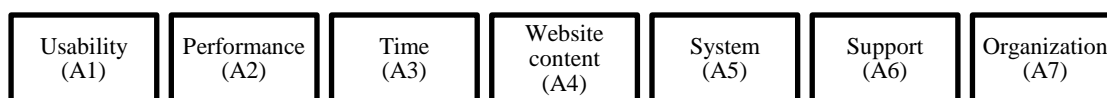
### 3.4.2. iMGov4E Processing an Order Phase

A particular Factor (F0) is specified that gives an overall evaluation of the Processing an Order Phase (P2). Table 3-17 shows the Factor 0 details for Phase 1 in iMGov4E.

(F0) How satisfied is the citizen with processing an online order?	Satisfied= 2	Neutral= 1	Unsatisfied= 0
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**Table 3-17: iMGov4E/P2/F0 Details**

This Phase is the main difference when comparing it to the same Phase in the iMGov4C model; because it concentrates on attributes that are more technical, advanced, and cannot be evaluated by citizens. Seven attributes are defined for this Phase: Usability, Performance, Time, Website content, System, Support, and Organization. Figure 3-10 shows attributes included in this Phase.



**Figure 3-10: iMGov4E/P2 Attributes**

Factor (F4) in the Usability Attribute is not used in iMGov4C. Usability Attribute details for Phase 2 in iMGov4E are shown in Table 3-18.

<b>Usability (A1)</b>			
<b>Path</b>	iMGov4E/P2/A1		
<b>Definition</b>	Evaluate e-Government service usability in terms of ease of use, understanding, and consideration to citizens		
<b>Importance</b>	e-Government service usability is important because it attract citizen to use the e-Service		
<b>Factors</b>	(F1) Is the e-Government service website easy to use?	Yes=2	No=0
	(F2) Is the e-Government service website easy to understand?	Yes=2	No=0
	(F3) Is the e-Government service website easy to navigate?	Yes=2	No=0
	(F4) Does the e-Government service consider citizens with special needs?	Yes=2	No=0

**Table 3-18: iMGov4E/P2/A1 Usability Details**

Factor (F4) in the Performance Attribute is not used in iMGov4C. Performance details for Phase 2 in iMGov4E are shown in Table 3-19.

<b>Performance (A2)</b>				
<b>Path</b>	iMGov4E/P2/A2			
<b>Definition</b>	e-Government service performance in terms of speed of processing an order			
<b>Importance</b>	e-Government service performance is an essential attribute that will help to increase the use of online e-Government service, and will lead to better citizen satisfaction			
<b>Factors</b>	(F1) How would you rate the e-Government service performance?	Good=2	Neutral=1	Bad=0
	(F2) Is the performance of the e-Government service	Fast=2	Neutral=1	Slow=0

	fast or slow?			
	(F3) Does the technical support increase the performance of the e-Service	Yes=2	No=0	
	(F4) Does the e-Service use specific applications that affect the performance of the request in a positive way?	Yes=2	No=0	

**Table 3-19: iMGov4E/P2/A2 Performance Details**

Time Attribute details for Phase 2 in iMGov4E are shown in Table 3-20.

Time (A3)				
<b>Path</b>	iMGov4E/P2/A3			
<b>Definition</b>	Evaluates e-Government service in terms of the time taken to process an order			
<b>Importance</b>	Time of processing e-Government service order will affect the citizen and make it successful			
<b>Factors</b>	(F1) Did the use of the e-Government service save the citizen time?	Yes=2	No=0	
	(F2) Was the citizen satisfied with the time taken to process their order?	Yes=2	No=0	
	(F3) Was the citizen satisfied with the processing time?	Yes=2	No=0	

**Table 3-20: iMGov4E/P2/A3 Time Details**

Attributes A4, A5, A6, and A7 are defined for the iMGov4E but not for iMGov4C; because the latter is concerned with advanced factors, in terms of website content, system, support, and organization; and cannot be evaluated by the citizen. Website content Attribute details for Phase 2 in iMGov4E are shown in Table 3-21.

Website content (A4)				
<b>Path</b>	iMGov4E/P2/A4			
<b>Definition</b>	Evaluates e-Government website content provided in terms of information and presentation			
<b>Importance</b>	e-Government service information, and presentation are important to make it successful			
<b>Factors</b>	(F1) Is all the information correct, and complete?	Yes=2	No=0	
	(F2) Is all the information consistent?	Yes=2	No=0	
	(F3) Is all the information relevant?	Yes=2	No=0	
	(F4) Is all the information easy to find?	Yes=2	No=0	
	(F5) How would you rate the website structure?	Good=2	Neutral=1	Bad=0
	(F6) How would you rate the website design?	Good=2	Neutral=1	Bad=0
	(F7) How would you rate the website navigation?	Good=2	Neutral=1	Bad=0

**Table 3-21: iMGov4E/P2/A4 Website content Details**

System Attribute details for Phase 2 in iMGov4E is shown in Table 3-22.

System (A5)				
<b>Path</b>	iMGov4E/P2/A5			
<b>Definition</b>	Evaluates e-Government service information related to the system			
<b>Importance</b>	e-Government service system evaluation by the expert give in depth judgment			
<b>Factors</b>	(F1) Does the e-Service integrate with other e-Services in order to enhance the service?	Yes=2		No=0
	(F2) Does the integration affect the process of specific e-Service in terms of speed?	Yes=2		No=0
	(F3) Does the website experience downtime including maintenance time?	Yes=0		No=2
	(F4) How would you rate the performance result taken by citizens in terms of system analysis?	Good=2	Neutral=1	Bad=0
	(F5) Does the website experience high traffic that slows down the system?	Yes=0		No=2
	(F6) Is the transaction of the specific e-Service smooth?	Yes=2		No=0

**Table 3-22: iMGov4E/P2/A5 System Details**

Support Attribute details for Phase 2 in iMGov4E are shown in Table 3-23.

Support (A6)				
<b>Path</b>	iMGov4E/P2/A6			
<b>Definition</b>	Evaluates e-Government services in terms of how they provide help and support to citizens			
<b>Importance</b>	Providing help and support to citizens will have a great impact on improving satisfaction			
<b>Factors</b>	(F1) Is there a help desk to support citizens?	Yes=2		No=0
	(F2) How would you rate the help desk staff's knowledge?	Good=2	Neutral=1	Bad=0

**Table 3-23: iMGov4E/P2/A6 Support Details**

Organization Attribute details for Phase 2 in iMGov4E are shown in Table 3-24.

Organization (A7)				
<b>Path</b>	iMGov4E/P2/A7			
<b>Definition</b>	Evaluates e-Government organization from two perspectives, planning and strategy			
<b>Importance</b>	e-Government organization analysis by the expert is another attribute that focuses on the organization			
<b>Factors</b>	(F1) Is the e-Government service well planned?	Yes=2		No=0
	(F2) Does the e-Government service have a future plan?	Yes=2		No=0
	(F3) Does the e-Government organization have strategy for the service in place?	Yes=2		No=0

**Table 3-24: iMGov4E/P2/A7 Organization Details**

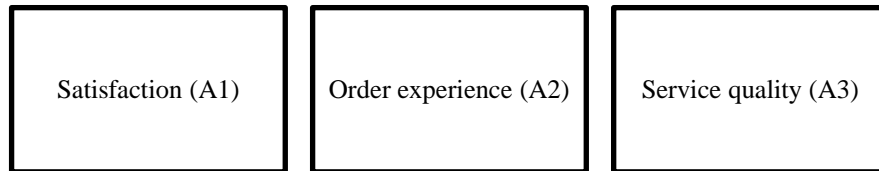
### 3.4.3. iMGov4E Delivering an Order Phase

A particular Factor (F0) is specified that gives an overall evaluation of the Delivering an Order Phase (P3). Table 3-25 shows the Factor 0 details for Phase 1 in iMGov4E.

(F0) How satisfied is the citizen with the delivery of the online order?	Satisfied= 2	Neutral= 1	Unsatisfied =0
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**Table 3-25: iMGov4E/P3/F0 Details**

Three attributes are defined for this Phase: Satisfaction, Order experience, and Service quality. Figure 3-11 shows attributes included in this Phase.



**Figure 3-11: iMGov4E/P3 Attributes**

Satisfaction Attribute details for Phase 3 in iMGov4E are shown in Table 3-26.

<b>Satisfaction (A1)</b>				
<b>Path</b>	iMGov4E/P3/A1			
<b>Definition</b>	Evaluates e-Government service in terms of how the organization provided services and meet citizens expectations			
<b>Importance</b>	Citizen satisfaction is the most important attribute that affects e-Government service			
<b>Factors</b>	(F1) How satisfied is the citizen with using online e-Government service?	Satisfied=2	Neutral=1	Unsatisfied=0
	(F2) How satisfied is the citizen with the organization's response?	Satisfied=2	Neutral=1	Unsatisfied=0
	(F3) How likely would the citizen be to use the online e-Government service?	Likely=2	Neutral=1	Not Likely=0

**Table 3-26: iMGov4E/P3/A1 Satisfaction Details**

Order experience Attribute details for Phase 3 in iMGov4C are shown in Table 3-27.

<b>Order experience (A2)</b>				
<b>Path</b>	iMGov4E/P3/A2			
<b>Definition</b>	Evaluates citizens' experience of using e-Government service, and how frequently they would use the service in the future			
<b>Importance</b>	The ability to deliver great experience for citizens.			
<b>Factors</b>	(F1) How would the citizen rate the online order experience overall?	Good=2	Neutral=1	Bad=0
	(F2) Did using online e-Government service save the citizen time?	Yes=2		No=0
	(F3) Did using the online e-Government service save the citizen effort?	Yes=2		No=0

**Table 3-27: iMGov4E/P3/A2 Order experience Details**

Service quality Attribute details for Phase 3 in iMGov4E are shown in Table 3-28.

<b>Service quality (A3)</b>			
<b>Path</b>	iMGov4E/P3		
<b>Definition</b>	Evaluates e-Service quality, and how the performance is seen by the expert		
<b>Importance</b>	The service quality is an important attribute to gain high citizen satisfaction		
<b>Factors</b>	(F1) Does the e-Government service seem to be trusted?	Yes=2	No=0
	(F2) Does the e-Government service seem to be secure?	Yes=2	No=0
	(F3) Does the e-Government service offer clear explanation and guidance for using the e-Service?	Yes=2	No=0

**Table 3-28: iMGov4E/P3/A3 Service quality Details**

In summary, iMGov4E consists of three phases, 13 attributes, and 50 factors that evaluate different aspects of e-Government service from the expert's perspective. Figure 3-12 shows the iMGov4E Model in detail.



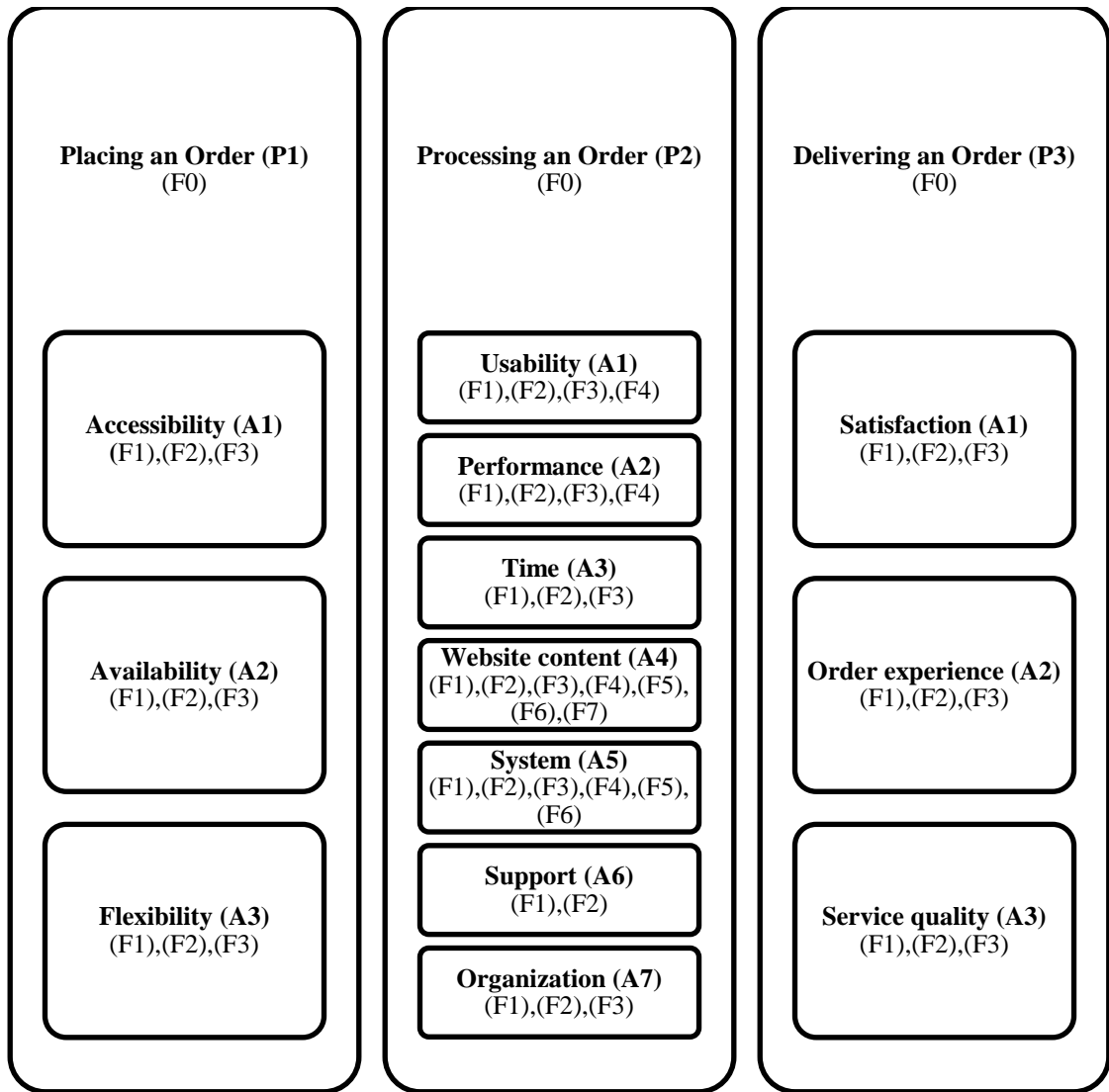


Figure 3-12: The iMGov4E Model Details

### 3.5. Calculations

A value for each Phase (P) is calculated by adding together the Attribute (A) values for that Phase plus the satisfaction Factor (F0). An Attribute (A) value is calculated by adding together factors (F) for that Attribute. All the factors have equal weight with a maximum value of 2. The maximum value is considered the positive evaluation response by the citizen or expert, while the minimum value (0) is considered the negative evaluation response by the citizen or an expert.

The iMGov4C Model consists of three phases, nine attributes and 30 factors, including three factors (F0). The iMGov4C Model is calculated based on three factor

values which contribute to each Attribute (A), one Factor (F0) which contributes to the Phase (P), and three attribute values which contribute to each Phase (P).

The calculated values can then be used to assess and evaluate the strengths and weaknesses of the e-Government service. The values are such that the higher the score the better the service is judged to be; for example, the perfect score from the citizen's point of view will be 60. Table 3-29 shows the maximum and minimum values for each Factor, Attribute and Phase of the iMGov4C Model.

Weight	Minimum	Maximum
Factor (F)	0	2
Attribute (A)	0	6
Phase (P)	0	20
iMGov4C	0	60

**Table 3-29: iMGov4C Maximum, and Minimum Weight Values Details**

The iMGov4E Model consists of three phases, 13 attributes, and 50 factors including three factors 0 (F0). The iMGov4E Model is calculated based on three factor values which contribute to each Attribute (A) in Phase 1 (P1), and Phase 3 (P3), and 30 factors which contribute to Phase 2 (P2), and is distributed among seven attributes, and one Factor (F0) contributes to the Phase (P); attribute values contribute to each Phase (P).

The calculated values can then be used to assess and evaluate the strengths and weaknesses of the e-Government service. The values are such that the higher the score the better the service is judged to be; for example, the perfect score from the experts' point of view will be 100. Table 3-30 shows the maximum and minimum values for each Factor and Attribute for Phase 1 (P1) and Phase 3 (P3).

Weight	Minimum	Maximum
Factor (F)	0	2
Attribute (A)	0	6
Phase (P1, P3)	0	20
iMGov4E (P1,P3)	0	40

**Table 3-30: iMGov4E (P1 and P3) Details of Maximum and Minimum Weight Values**

Table 3-31 shows the maximum and minimum values for each Factor, Attribute, for Phase 2 (P2) of the iMGov4E Model.

Weight	Minimum	Maximum
<b>Factor (F)</b>	0	2
<b>Attribute (A1)</b>	0	8
<b>Attribute (A2)</b>	0	8
<b>Attribute (A3)</b>	0	6
<b>Attribute (A4)</b>	0	14
<b>Attribute (A5)</b>	0	12
<b>Attribute (A6)</b>	0	4
<b>Attribute (A7)</b>	0	6
<b>Phase (P2)</b>	0	60
<b>iMGov4E (P1,P2,P3)</b>	0	100

**Table 3-31: iMGov4E (P2) Details of Maximum, and Minimum Weight Values**

### **3.6. Summary**

In summary, this chapter has defined the iMGov Model from the perspective of the citizen (iMGov4C) and of the expert (iMGov4E). Both are three phase models with different emphasis, but orientated such that the higher the score the better the service is judged to be.

The iMGov4C Model has an even definition of phases that include three factors for each Attribute, three attributes for each Phase, together with an overall Factor 0 for each Phase. The iMGov4E Model has uneven definition of factors and attributes for Phase 2 (P2) since it emphasises the Processing an Order Phase, for Phase 1, and Phase 3 the model includes three factors for each Attribute, three attributes for each Phase, together with an overall Factor 0.

## **Chapter 4      The Survey and Questionnaire**

### **4.1.      Introduction**

The survey concerns the assessment and evaluation of e-Government services provided to citizens. It does so through the development, evaluation, and analysis of a new model. This model is citizen centred and will help e-Government organizations to assess and evaluate the strengths and weaknesses of their e-Services. The citizen is one of the elements that drive governments to put their services online. Therefore, finding ways of assessing and evaluating their e-Services is crucial in order to achieve better results and greater citizen satisfaction. The iMGov Model is defined in Chapter 3, and this chapter shows how the model is mapped to a survey questionnaire.

### **4.2.      Structure of Questionnaire**

In this research, two questionnaires were structured based on the iMGov sub models. The first, the citizen's questionnaire was structured around the iMGov4C, a three phase model: Placing an Order, Processing an Order, and Delivering an Order. Each Phase has a set of 10 questions that are related to attributes within that Phase, for example, the Placing an Order Phase has a set of questions related to Accessibility, Availability and Flexibility, and one question is related to the Phase itself. Each question is related to a particular Factor in the iMGov4C Model, and it was considered inappropriate to burden the citizen with the details of the model.

The second questionnaire, the expert's questionnaire, was structured around the iMGov4E three phase model: Placing an Order, Processing an Order, and Delivering an Order. Phase 1 and Phase 3 have a set of 10 questions that are related to attributes within that Phase; for example, the Placing an Order Phase has a set of questions related to Accessibility, Availability and Flexibility, and one question related to the Phase itself. The Processing an Order Phase has a set of 30 questions related to Usability, Performance, Time, Website content, System, Support, and Organization, and one question related to the Phase itself. Each question is related to a specific Factor in the iMGov4E Model; and it was considered inappropriate to burden the expert with the details of the model.

Finally, the questionnaire starts with a brief introduction about the research, and the demographics questions; this set of questions determines whether the respondent is an Expert or a Citizen in order to direct them to the relevant model (iMGov4C or iMGov4E). The citizens' questionnaire consists of 30 questions, and the expert's questionnaire consists of 50 questions.

### 4.3. Mapping Questionnaire to the iMGov Model

This section explains how the questionnaires are mapped to the iMGov4C Model, and iMGov4E Model. The mapping is shown in terms of a question, and which path this question belongs to in terms of Factor, Attribute, and Phase of the model. The set of questions directly contributes to the values in the relevant model.

#### 4.3.1. Mapping Questionnaire to the iMGov4C Model

The questionnaire directly contributes to the values in the iMGov4C model. The mapping is shown in terms of a question, and which path this question belongs to in terms of Factor, Attribute, and Phase. The set of questions addresses the three phases of the iMGoc4C: Placing an Order, Processing an Order, and Delivering an Order. Table 4-1 shows, in detail, how the questionnaire is mapped to the iMGov4C Model.

No.	Question	Factor	Attribute	Phase
0	What is your main access to the Internet?	-	-	-
0	Please specify one specific online e-Government service you have used or applied before.	-	-	-
0	Briefly describe the online e-Government service you have specified in the previous question.	-	-	-
0	Which country does the specified online e-Government belong to?	-	-	-
0	Have you used or applied for online e-Government services before?	-	-	-
1	Are you satisfied with placing your online order?	F0	-	P1
2	Is the e-Government service accessible?	F1	A1	P1
3	Can the e-Government service be reached by different channels? (online, in person, by phone, or at a self service kiosk)	F2	A1	P1
4	Are there difficulties in placing an order?	F3	A1	P1
5	Is the e-Government service available (at any time)?	F1	A2	P1
6	Experiencing downtime time including maintenance while placing an order	F2	A2	P1
7	Are there difficulties in reaching e-Service	F3	A2	P1
8	Is the e-Government service flexible?	F1	A3	P1

No.	Question	Factor	Attribute	Phase
9	Does the e-Government service have different payment methods?	F2	A3	P1
10	Do you prefer to achieve your objective online, or in person?	F3	A3	P1
11	Are you satisfied with processing your online order?	F0	-	P2
12	Is the e-Government service website easy to use?	F1	A1	P2
13	Is the e-Government service website easy to understand?	F2	A1	P2
14	Is the e-Government service website easy to navigate?	F3	A1	P2
15	How would you rate the e-Government service performance?	F1	A2	P2
16	Is the performance of the e-Government service fast or slow?	F2	A2	P2
17	Does the technical support increase the performance of the e-Service?	F3	A2	P2
18	Did the use of the e-Government service save you time?	F1	A3	P2
19	How satisfied are you with the time taken to process your order?	F2	A3	P2
20	Are you satisfied with the processing time?	F3	A3	P2
21	Are you satisfied with delivering your online order?	F0	-	P3
22	Are you satisfied with the online e-Government service	F1	A1	P3
23	Are you satisfied with the organization's response	F2	A1	P3
24	How likely would you be to use the online e-Government service	F3	A1	P3
25	How would you rate your online order experience overall?	F1	A2	P3
26	Using online e-Government service saved you time	F2	A2	P3
27	Using online e-Government service saved you effort	F3	A2	P3
28	Does the e-Government service seem to be trusted?	F1	A3	P3
29	Does the e-Government service seem to be secure?	F2	A3	P3
30	Does the e-Government service offer a clear explanation, and guidance for its use?	F3	A3	P3

**Table 4-1: Mapping Questionnaire to the iMGov4C Model**

#### **4.3.2. Mapping Questionnaire to the iMGov4E Model**

The questionnaire directly contributes to the values in the iMGov4E model. The mapping is shown in terms of a question and which path this question belongs to in terms of Factor, Attribute and Phase. The set of questions addresses the three phases of the iMGov4E Model: Placing an Order, Processing an Order, and Delivering an Order. Table 4-2 shows, in detail, how the questionnaire is mapped to the iMGov4E Model.

No.	Question	Factor	Attribute	Phase
0	What is your main access to the Internet?	-	-	-
0	Please specify one specific online e-Government service you have used or applied before.	-	-	-
0	Briefly describe the online e-Government service you have specified in the previous question.	-	-	-

No.	Question	Factor	Attribute	Phase
0	Which country does the specified online e-Government belong to?	-	-	-
0	Have you used or applied for online e-Government services before?	-	-	-
1	How satisfied is the citizen with placing an online order?	F0	-	P1
2	Is the e-Government service accessible?	F1	A1	P1
3	Can the e-Government service be reached by different channels? (online, in person, by phone, or self service kiosk)	F2	A1	P1
4	Are there difficulties in placing an online order?	F3	A1	P1
5	Is the e-Government service available at any time?	F1	A2	P1
6	Are there difficulties in reaching the e-Service?	F2	A2	P1
7	Experiencing downtime (including maintenance) while placing an order	F3	A2	P1
8	Is the e-Government service flexible?	F1	A3	P1
9	Does the e-Government service have different payment methods?	F2	A3	P1
10	Does the citizen prefer to achieve their objective online or in person?	F3	A3	P1
11	How satisfied is the citizen with processing an online order?	F0	-	P2
12	Is the e-Government service website easy to use?	F1	A1	P2
13	Is the e-Government service website easy to understand?	F2	A1	P2
14	Is the e-Government service website easy to navigate?	F3	A1	P2
15	Does the e-Government service consider citizens with special needs?	F4	A1	P2
16	How would you rate the e-Government service performance?	F1	A2	P2
17	Is the performance of the e-Government service fast or slow?	F2	A2	P2
18	Does the technical support increase the performance of the e-Service	F3	A2	P2
19	Does the e-Service use specific applications that affect the performance of the request in a positive way?	F4	A2	P2
20	Did the use of the e-Government service save the citizen time?	F1	A3	P2
21	Was the citizen satisfied with the time taken to process their order?	F2	A3	P2
22	Was the citizen satisfied with the processing time?	F3	A3	P2
23	Is all the information correct, and complete?	F1	A4	P2
24	Is all the information consistent?	F2	A4	P2
25	Is all the information relevant?	F3	A4	P2
26	Is all the information easy to find?	F4	A4	P2
27	How would you rate the website structure?	F5	A4	P2
28	How would you rate the website design?	F6	A4	P2
29	How would you rate the website navigation?	F7	A4	P2
30	Does the e-Service integrate with other e-Services in order to enhance the service?	F1	A5	P2
31	Does the integration affect the process of specific e-Service in terms of speed?	F2	A5	P2
32	Does the website experience downtime including maintenance time?	F3	A5	P2
33	How would you rate the performance result taken by citizens in terms of system analysis?	F4	A5	P2

No.	Question	Factor	Attribute	Phase
34	Does the website experience high traffic that slows down the system?	F5	A5	P2
35	Is the transaction of the specific e-Service smooth?	F6	A5	P2
36	Is there a help desk to support citizens?	F1	A6	P2
37	How would you rate the help desk staff's knowledge?	F2	A6	P2
38	Is the e-Government service well planned?	F1	A7	P2
39	Does the e-Government service have a future plan?	F2	A7	P2
40	Does the e-Government organization have strategy for the service in place?	F3	A7	P2
41	How satisfied is the citizen with the delivery of an online order?	F0	-	P3
42	How satisfied is the citizen with using online e-Government service?	F1	A1	P3
43	How satisfied is the citizen with the organization's response?	F2	A1	P3
44	How likely would the citizen be to use the online e-Government service?	F3	A1	P3
45	How would the citizen rate the online order experience overall?	F1	A2	P3
46	Did using online e-Government service save the citizen time?	F2	A2	P3
47	Did using the online e-Government service save the citizen effort?	F3	A2	P3
48	Does the e-Government service seem to be trusted?	F1	A3	P3
49	Does the e-Government service seem to be secure?	F2	A3	P3
50	Does the e-Government service offer clear explanation and guidance for using the e-Service?	F3	A3	P3

**Table 4-2: Mapping Questionnaire to the iMGov4E Model**

#### 4.4. Applying the Survey

The survey was applied to nine selected e-Government services: e-Passport, university application, national ID card, e-Gate, scholarship, traffic violations, loan request, job applications, and e-Visa services. Table 4-3 shows a summary of the evaluated e-Services, belonging to organizations in the country of Saudi Arabia.

No.	e-Service	Organization
1	<b>e-Passport</b>	Ministry of Interior
2	<b>University application</b>	Ministry of Education
3	<b>National ID card</b>	Ministry of Interior
4	<b>e-Gate</b>	Ministry of Interior
5	<b>Scholarship</b>	Ministry of Education
6	<b>Traffic violations</b>	Ministry of Interior
7	<b>Loan request</b>	Ministry of Housing
8	<b>Job application</b>	Ministry of Labour
9	<b>e-Visa services</b>	Ministry of Foreign Affairs

**Table 4-3: List of Evaluated e-Services in the Survey**



The e-Government services were evaluated by citizens and experts; 70 responses were collected from the citizens' questionnaire which relates to the iMGov4C Model, and nine were collected from the expert questionnaire for each evaluated service which relates to the iMGov4E Model. Because of technical reason there were difficulties in identifying an expert to fill out the questionnaire, the expert part was done by self analysis and walk through each e-Service. Table 4-4 shows the number of evaluated e-Services and the number of responses by citizens and an expert.

No. of e-Services	iMGov4C	iMGov4E
9	70	9

**Table 4-4: Number of Evaluated e-Services, and Number of Responses using iMGov4C and iMGov4E**

## **4.5. Summary**

In summary, this chapter has defined how the questionnaires are mapped to the iMGov4C Model and the iMGov4E Model; the mapping is shown in terms of a question, and which path this question belongs to in terms of Factor, Attribute, and Phase. iMGov4C Questionnaire is shown in AppendixC page 140 and iMGov4E Questionnaire is shown in Appendix D page 142.

## Chapter 5 Results and Discussions

### 5.1. Introduction

This chapter discusses the results of applying the iMGov Model for nine selected e-Government services. These e-Services are: e-Passport, university application, national ID card, e-Gate, scholarship, traffic violations, loan request, job application, and e-Visa services within the country of Saudi Arabia. The evaluation was carried out by citizens and self analysis (expert); 70 responses were collected from the citizens' questionnaire that relates to the iMGov4C Model and nine from the expert questionnaire that relates to the iMGov4E Model. The listed e-Service got reasonable number of responses. On the other hand, other e-Services evaluated by only one or two citizens were omitted because it is not considered as a reasonable sample. The Expert in this case was the result of self analysis and walk through by the author. Table 5-1 shows the evaluated e-Services and the number of responses by citizens and an expert.

No.	e-Service	No. of Citizens	No. of Expert
1	e-Passport	6	1
2	University application	8	1
3	National ID card	11	1
4	e-Gate	6	1
5	Scholarship	15	1
6	Traffic violations	4	1
7	Loan request	4	1
8	Job application	7	1
9	e-Visa Services	9	1

Table 5-1: Evaluated e-Services Number of Responses

### 5.2. Terminologies

For the purpose of clarification, simplicity, and for better understanding of the iMGov Model and the outcome results, the terminologies used in this research are defined below. The iMGov Model consists of two sub models:

The iMGov for Citizen Model (iMGov4C) is defined as one in which:

*“The e-Government service evaluation is given by the citizens”.*

The iMGov for Expert Model (iMGov4E) is defined as one in which:

*“The e-Government service evaluation is given by experts”.*

Citizen (C) is defined as:

*“A person who uses and evaluates a specific e-Service”.*

Expert (E) is defined as:

*“An experienced person in the field of e-Government who evaluates a specific e-Service”.*

e-Government services (e-Services) are classified and evaluated in terms of phases, the Phase (P) is defined as:

*“The stage of an e-Government service (e-Service) to be evaluated in terms of placing an order, processing an order, and delivering an order”.*

Each Phase is expanded into a set of attributes; Attribute (A) is defined as:

*“A feature that contributes to the Phase”.*

Each Attribute is expanded into a set of factors; Factor (F) is defined as:

*“An evaluation question that contributes to the Attribute”.*

A particular Factor (F0) is specified that gives an overall evaluation of the Phase; Factor 0 (F0) is defined as:

*“The Factor within each Phase that is related to the Phase, and does not belong to any Attribute”.*

In order to locate factors, attributes, and phases within the model, Path is defined as:

*“The index that defines Factor (F), Attribute (A), and Phase (P) and where they belong, either for citizen or expert”.*

For each model responses are collected, and calculated; Response (R) is defined as:

*“The evaluation value given by a Citizen (C) or an Expert (E) for a specific evaluated e-Service”.*

Responses are represented in terms of positive, neutral, and negative; Positive response is defined as:

*“The A response given by a Citizen (C) or an Expert (E) to each factor; the score of each positive response is 2”.*

Neutral response is defined as:

*“The response given by a Citizen (C) or an Expert (E) to some factors; the score of each neutral response is 1”.*

Negative response is defined as:

*“The response given by a Citizen (C) or an Expert (E) to each Factor; the score of each negative response is 0”.*

The calculation of the model is based in terms of average, standard deviation;

Average (AVG) is defined as:

*“The specific evaluated e-Service average by a Citizen (C) or an Expert (E)”.*

Standard Deviation (STD) is defined as:

*“The specific evaluated e-Service standard deviation by a Citizen (C), or an Expert (E)”.*

The visualization of the model is based in terms of emotion line; Emotion Line (EL) is defined as:

*“The responses to the three phases of the iMGov Model from a Citizen (C) and an Expert (E), and how satisfied a respondent is with each Phase”.*

### **5.3. List of Evaluated e-Services**

The discussion of the results of applying the iMGov Model is presented for nine selected e-Government services; these e-Services are:

1. e-Passport. This e-Service is used to apply for a passport using the government organization website
2. University application. This e-Service is used to apply for university admission using the university website
3. National ID card. This e-Service is used to apply for national ID Card using the government organization website

4. e-Gate. This e-Service is used to apply for an e-Gate card that works as a passport in airports using the government organization website
5. Scholarship. This e-Service is used to apply for scholarship services provided to students who study abroad using the government organization website
6. Traffic violations. This e-Service is used to query traffic violations using the government organization website
7. Loan request. This e-Service is used to apply for a loan, provided by government to citizens using the government organization website
8. Job application. This e-Service is used to help unemployed citizens to find work by offering a monthly allowance for one year plus training until they find a job using the government organization website
9. e-Visa services. This e-Service is used to apply for family visit visas for first degree relatives by using the government organization website.

These e-Services exist across different e-Government organizations, for example, the Ministry of Interior, Ministry of Education, Ministry of Housing, Ministry of Labour, and Ministry of Foreign Affairs, within the country of Saudi Arabia. Table 5-2 shows details of the evaluated e-Services, which organization they belong to, and the organization website.

No.	e-Service	Organization	Website	Country
1	<b>e-Passport</b>	Ministry of Interior	www.moi.gov.sa	Saudi Arabia
2	<b>University application</b>	Ministry of Education	www.moe.gov.sa	
3	<b>National ID card</b>	Ministry of Interior	www.moi.gov.sa	
4	<b>e-Gate</b>	Ministry of Interior	www.moi.gov.sa	
5	<b>Scholarship</b>	Ministry of Education	www.moe.gov.sa	
6	<b>Traffic violations</b>	Ministry of Interior	www.moi.gov.sa	
7	<b>Loan request</b>	Ministry of Housing	www.housing.gov.sa	
8	<b>Job application</b>	Ministry of Labour	www.mol.gov.sa	
9	<b>e-Visa services</b>	Ministry of Foreign Affairs	www.mofa.gov.sa	

**Table 5-2: List of Evaluated e-Services**

## 5.4. The iMGov4C Results

In this section, the results of the evaluations of the specified e-Services by citizens using the iMGov4C Model are presented, analysed and discussed, in the form of a collective summary of all evaluated e-Services, full analysis for e-Passport service, and finally a summary of other e-Services. The evaluated e-Service will be presented in the form of: e-Service, definition of e-Service, evaluation model, number of responses, results (AVG, STD) as a whole model, and per Phase, and notes.

### 5.4.1. Collective summary of all evaluated e-Services using iMGov4C

The collective summary of all evaluated e-Services by citizens using the iMGov4C Model will be presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, results in terms of average, and standard deviation (AVG, STD) as a whole model and per phase, and notes. In the iMGov4C Model, all three phases have an equal weight of 20 each (See section 3.3.). The collective summary of all evaluated e-Services by citizens using the iMGov4C Model is presented in Table 5-3.

No.	e-Service	# of Citizens Responses	AVG			STD		
			(P1)	(P2)	(P3)	(P1)	(P2)	(P3)
1	e-Passport	6	36.00			20.59		
			11.50	12.17	12.33	6.80	7.03	7.01
2	University application	8	43.38			7.19		
			10.88	14.88	17.63	2.75	3.91	1.92
3	National ID card	11	45.09			8.65		
			12.27	15.73	17.09	3.72	3.10	3.65
4	e-Gate	6	34.00			16.79		
			9.67	10.17	14.17	4.32	5.74	7.70
5	Scholarship	15	44.53			8.26		
			11.87	16	16.67	8.26	3.16	4.56
6	Traffic violations	4	47.50			4.36		
			16.75	14.50	16.25	1.89	2.65	2.99
7	Loan request	4	32.75			8.18		
			10.75	10.50	11.50	4.27	2.38	2.08
8	Job application	7	44.17			11.55		
			10.83	15.67	17.67	3.13	4.55	4.80
9	e-Visa services	9	42.78			12.18		
			14.33	13.56	14.89	4.12	4.39	4.62
		<b>70</b>						

**Table 5-3: Collective Summary of all Evaluated e-Services Using iMGov4C**

The average (AVG) score is out of 60. The results of the collective summary of all evaluated e-Services using iMGov4C shows that the AVG score is over 30

(50%) for all e-Services. Traffic violations achieved the best score (47.50), and loan request achieved the lowest score (32.75). The results show that e-Passport standard deviation (STD) is the highest (20.59), and Traffic violations is the lowest STD (4.36). Table 5-4 shows the e-Services with the lowest STD. In particular, it is noticed that the e-Passport AVG score is (36.00) and the STD score is (20.59); on the other hand, e-Gate AVG score is (34.00) and the STD score is (16.79), but in reality e-Gate was a failure as described in Table 5-34 and Table 5-35.

No.	e-Service
1	Traffic violations
2	University application
3	Loan request
4	Scholarship
5	National ID card
6	Job application
7	e-Visa
8	e-Gate
9	e-Passport

**Table 5-4: List of Evaluated e-Services with Lowest STD using iMGov4C**

#### 5.4.2. Full analysis for e-Passport using iMGov4C

In this section, a full analysis for e-Passport applications by citizens using the iMGov4C Model will be presented as described in section 5.4. Table 5-5 shows e-Passport iMGov4C summary (See further discussion in Section 5.4.3).

<b>e-Service</b>	e-Passport		
<b>Definition</b>	Using the government website to apply for a passport		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	6		
<b>Results</b>	(P1) (P2) (P3)	AVG= 36.00	STD= 20.59
	(P1) Placing an Order	AVG= 11.50	STD= 06.80
	(P2) Processing an Order	AVG= 12.17	STD= 07.03
	(P3) Delivering an Order	AVG= 12.33	STD= 07.61
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-5: e-Passport evaluated by iMGov4C Summary**

Table 5-6 shows the number of citizens' responses per Factor for each Phase; and shows the number of positive, neutral and negative responses by citizens who evaluated the e-Passport service. The more positive responses there are, the higher the evaluation results will be. In addition, from the research perspective counting the number of responses will highlight the strengths and weakness of a specific evaluated e-Service by focusing on the smallest element of the evaluation criteria (Factor). For example, Path C/P1/A1/F1, measures the e-Government service on Phase 1 (P1) Placing an Order, which includes Attribute 1 (A1) Accessibility, which includes three factors (F1, F2, and F3). In Factor 1 (F1), there were five out of six positive responses, and one out of six negative responses.

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	3	1	2
C/P1/A1/F1	5	0	1
C/P1/A1/F2	2	0	4
C/P1/A1/F3	3	0	3
C/P1/A2/F1	4	0	2
C/P1/A2/F2	3	0	3
C/P1/A2/F3	4	0	2
C/P1/A3/F1	4	0	2
C/P1/A3/F2	3	0	3
C/P1/A3/F3	3	0	3

**Table 5-6: Number of Citizens' Responses per Factor for Phase 1 (e-Passport)**

Table 5-7 shows the total number of citizens' responses per Phase, and shows the number of positive, neutral, and negative responses by citizens who evaluated the e-Passport service. The more positive responses there are, the higher the evaluation results will be. In addition, from the research perspective the number of responses will highlight the strengths and weakness of a specific evaluated e-Service by focusing on the Phase. For example: P1 is related to Placing an Order, which focuses on three attributes: Accessibility (A1), Availability (A2) and Flexibility (A3); there were 34 out of 60 positive responses, one out of six neutral response, and 25 out of 60 negative responses on P1.



	Results	Out of	Notes
# of R (Response)/P	6	6	
# of 2 (Positive)/P	34	60	10 Factors * 6 Responses
# of 1 (Neutral)/P	1	6	1 Factor * 6 Responses
# of 0 (Negative)/P	25	60	10 Factors * 6 Responses

**Table 5-7: Total Number of Citizens' Responses per Phase 1 (P1) (e-Passport)**

Table 5-8 shows the number of citizens' responses per Factor for Phase 2 (P2), and shows the number of positive, neutral, and negative responses from citizens who evaluated the e-Passport service.

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	2	2	2
C/P2/A1/F1	4	0	2
C/P2/A1/F2	3	0	3
C/P2/A1/F3	4	0	2
C/P2/A2/F1	2	4	0
C/P2/A2/F2	1	4	1
C/P2/A2/F3	5	0	1
C/P2/A3/F1	4	0	2
C/P2/A3/F2	2	3	1
C/P2/A3/F3	3	0	3

**Table 5-8: Number of Citizens' Responses per Factor for Phase 2 (e-Passport)**

Table 5-9 shows the total number of citizens' responses for P2, and the number of positive, neutral, and negative responses by citizens who evaluated the e-Passport service.

	Results	Out of
# of R/P	6	6
# of 2 (Positive)/P	30	60
# of 1 (Neutral)/P	13	24
# of 0 (Negative)/P	17	60

**Table 5-9: Total Number of Citizens' Responses for Phase 2 (e-Passport)**

Table 5-10 shows the number of citizens' responses per factor for P3 and the number of positive, neutral, and negative responses from citizens who evaluated the e-Passport service.

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	3	1	2
C/P3/A1/F1	4	0	2
C/P3/A1/F2	4	0	2
C/P3/A1/F3	3	2	1
C/P3/A2/F1	2	3	1
C/P3/A2/F2	4	0	2
C/P3/A2/F3	4	0	2
C/P3/A3/F1	3	0	3
C/P3/A3/F2	3	0	3
C/P3/A3/F3	4	0	2

**Table 5-10: Number of Citizens' Responses per Factor for Phase 3 (e-Passport)**

Table 5-11 shows the total number of citizens' responses for Phase 3, and shows the number of positive, neutral and negative responses by citizens who evaluated the e-Passport service.

	Results	Out of
# of R/P	6	6
# of 2 (Positive)/P	34	60
# of 1 (Neutral)/P	6	24
# of 0 (Negative)/P	20	60

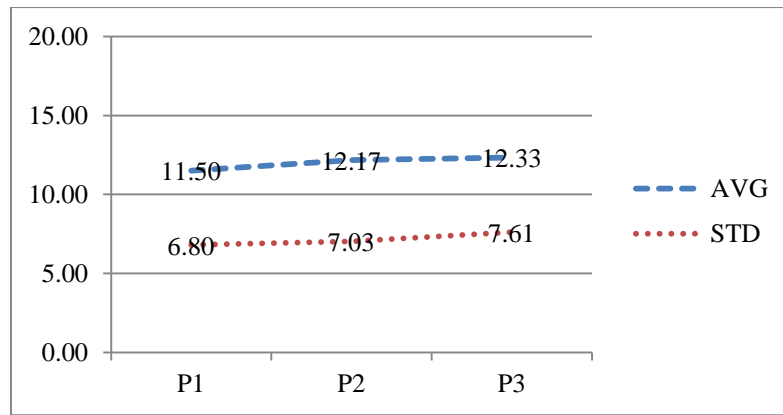
**Table 5-11: Total Number of Citizens' Responses for Phase 3 (P3) (e-Passport)**

In summary, Table 5-12 shows the total number of citizens' responses for the e-Passport service in terms of positive, neutral, and negative responses for the iMGov4C Model.

	Results	Out of
# of R/C	6	6
# of 2 (Positive)/C	98	180
# of 1 (Neutral)/C	20	54
# of 0 (Negative)/C	62	180

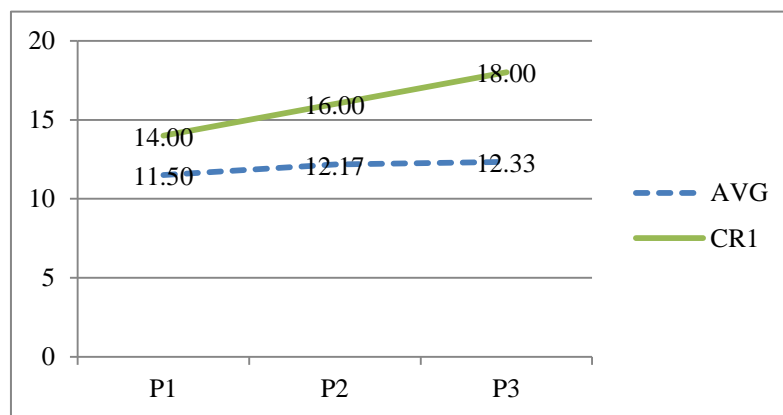
**Table 5-12: Total Number of Citizens' Responses for e-Passport**

Figure 5-1 shows the average (AVG), and standard deviation (STD), that includes the three phases, P1, P2, and P3, for the evaluation of the e-Passport service by citizens using the iMGov4C Model.



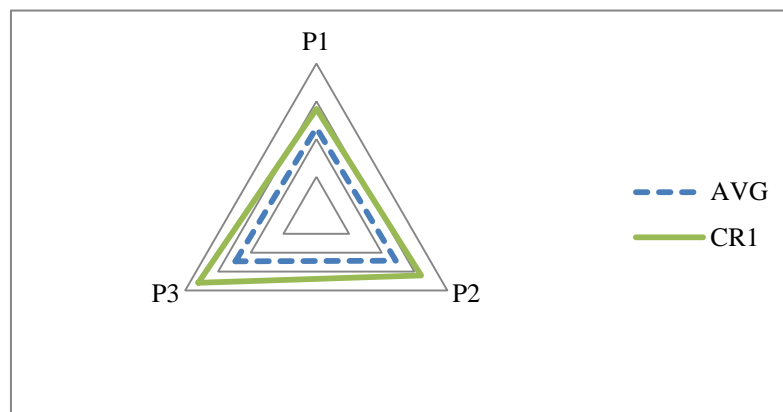
**Figure 5-1: AVG, and STD for Three Phases P1, P2, and P3 (e-Passport)**

A study of each response will be worked through in order to better understand and clarify the results. The Emotion Line (EL) from citizen 1's response (CR1) for the e-Passport is shown in Figure 5-2.



**Figure 5-2: CR1 vs. AVG e-Passport Emotion Line (EL)**

Figure 5-3 shows another view of CR1 for the e-Passport using radar plots.



**Figure 5-3: CR1 vs. AVG e-Passport using Radar Plots**

Table 5-13 shows CR1's final score, against AVG score for all phases in e-Passport evaluation based on the iMGov4C Model.

CR1	AVG
48.00	36.00

**Table 5-13: CR1 vs. AVG e-Passport per P1, P2, and P3**

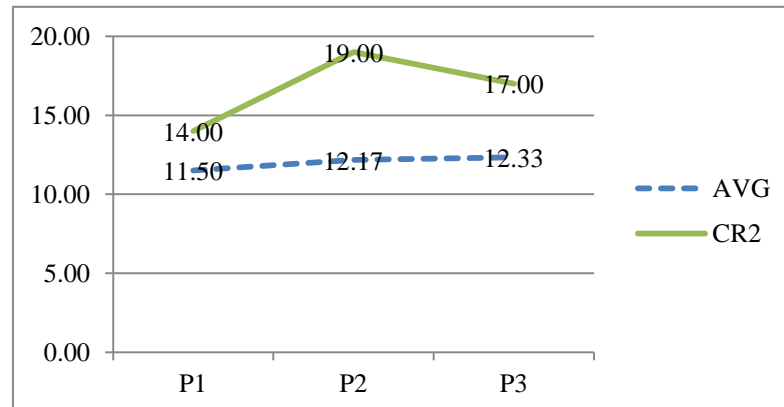
Table 5-14 shows CR1's final score, against AVG score per Phase in e-Passport evaluation based on the iMGov4C Model.

P	CR1	AVG
P1	14.00	11.50
P2	16.00	12.17
P3	18.00	12.33

**Table 5-14: CR1 vs. AVG e-Passport per Phase (P)**

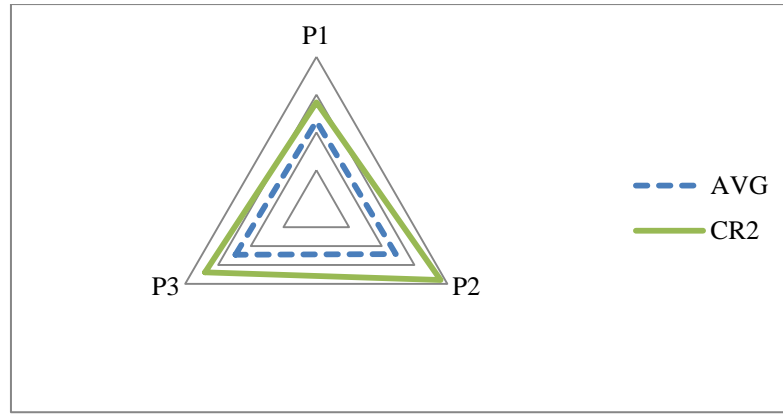
In conclusion, CR1's scores for the three phases of the e-Passport service shows that the Delivering an Order Phase (P3) scored higher than the other two phases (P1 and P2); on the other hand, in comparison with the AVG, CR1 scored higher than AVG in e-Passport evaluation based on the iMGov4C Model.

CR2's Emotion Line (EL) for the e-Passport is shown in Figure 5-4.



**Figure 5-4: CR2 vs. AVG e-Passport Emotion Line (EL)**

Figure 5-5 shows another view of CR2 for the e-Passport using radar plots.



**Figure 5-5: CR2 vs. AVG e-Passport using Radar Plots**

Table 5-15 shows CR2's final score against AVG score for all phases in the e-Passport evaluation based on the iMGov4C Model.

CR2	AVG
50.00	36.00

**Table 5-15: CR2 vs. AVG e-Passport per P1, P2, and P3**

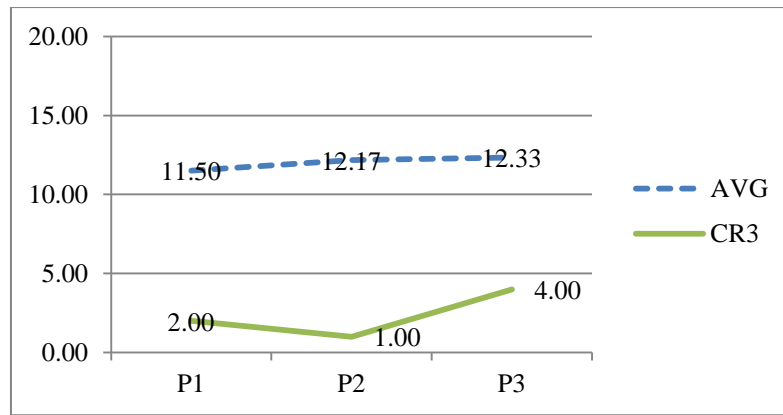
Table 5-16 shows CR2's final score, against AVG score per phase in e-Passport evaluation based on the iMGov4C Model.

P	CR2	AVG
P1	14.00	11.50
P2	19.00	12.17
P3	17.00	12.33

**Table 5-16: CR2 vs. AVG e-Passport per Phase (P)**

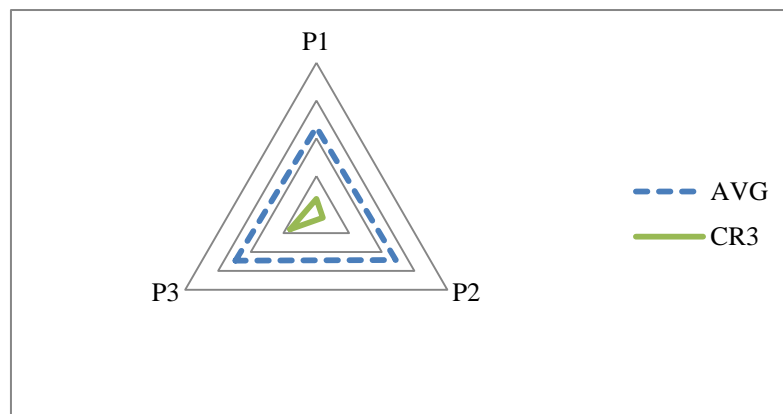
In conclusion, CR2's scores for the three e-Passport phases shows that the Processing an Order Phase (P2) scored higher than the other two phases (P1 and P3); on the other hand, in comparison with the AVG, CR2 scored higher than AVG in e-Passport evaluation based on the iMGov4C Model.

CR3's Emotion Line (EL) for the e-Passport is shown in Figure 5-6.



**Figure 5-6: CR3 vs. AVG e-Passport Emotion Line (EL)**

Figure 5-7 shows another view of CR3 for the e-Passport using radar plots.



**Figure 5-7: CR3 vs. AVG e-Passport using Radar Plots**

Table 5-17 shows CR3's final score against AVG score for all phases in e-Passport evaluation based on the iMGov4C Model.

CR3	AVG
7.00	36.00

**Table 5-17: CR3 vs. AVG e-Passport per P1, P2, and P3**

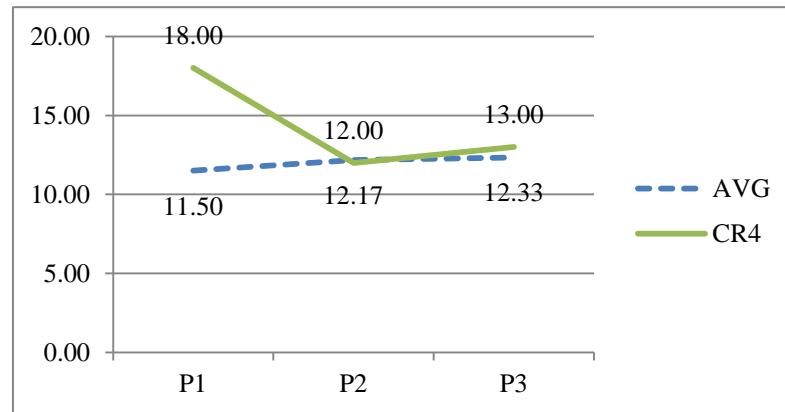
Table 5-18 shows CR3's final score, against AVG score per phase in e-Passport evaluation based on the iMGov4C Model.

P	CR3	AVG
P1	2.00	11.50
P2	1.00	12.17
P3	4.00	12.33

**Table 5-18: CR3 vs. AVG e-Passport per Phase (P)**

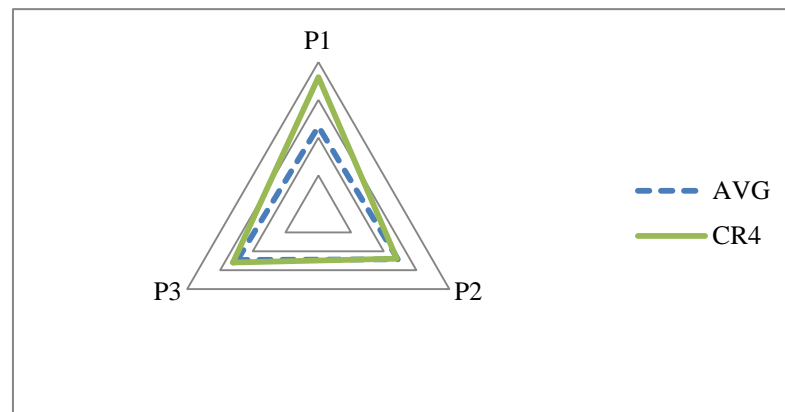
In conclusion, CR3's scores for the three e-Passport phases show that the Delivering an Order Phase (P3) scored higher than the other two phases (P1 and P2); on the other hand, in comparison with the AVG, CR3's score is significantly lower than AVG in e-Passport evaluation based on the iMGov4C Model.

CR4's Emotion Line (EL) for the e-Passport is shown in Figure 5-8.



**Figure 5-8: CR4 vs. AVG e-Passport Emotion Line (EL)**

Figure 5-9 shows another view of CR4 for the e-Passport using radar plots.



**Figure 5-9: CR4 vs. AVG e-Passport using Radar Plots**

Table 5-19 shows CR4's final score against AVG score for all phases in e-Passport evaluation based on the iMGov4C Model.

CR4	AVG
43.00	36.00

**Table 5-19: CR4 vs. AVG e-Passport per P1, P2, and P3**

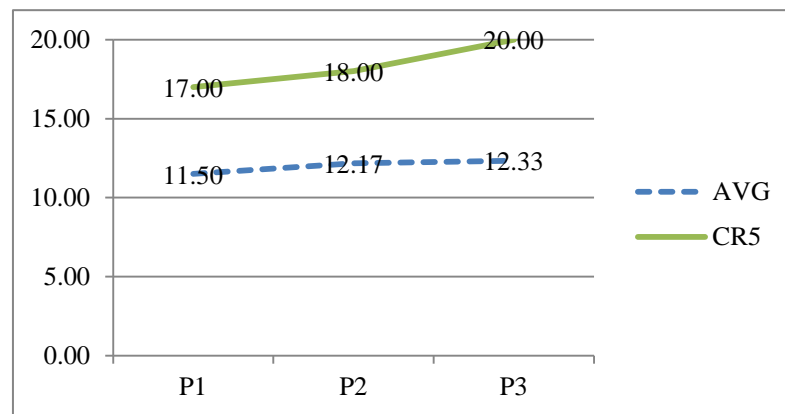
Table 5-20 shows CR4's final score against AVG score per phase in e-Passport evaluation based on the iMGov4C Model.

P	CR4	AVG
P1	18.00	11.50
P2	12.00	12.17
P3	13.00	12.33

**Table 5-20: CR4 vs. AVG e-Passport per Phase (P)**

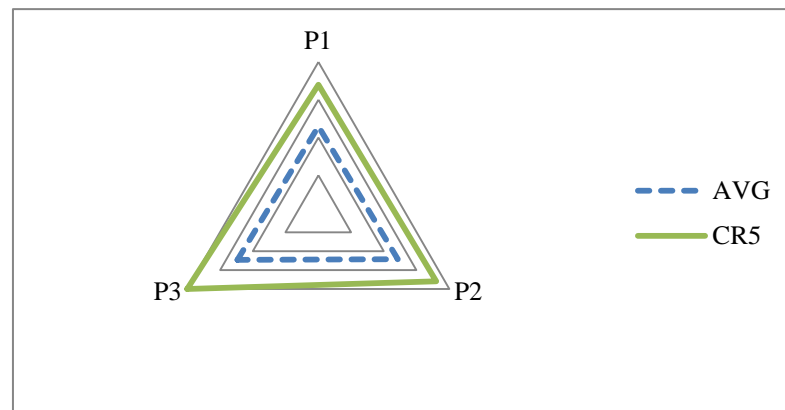
In conclusion, CR4's scores for the three e-Passport phases shows that the Placing an Order Phase (P1) scored higher than the other two phases (P2 and P3); on the other hand, in comparison with the AVG, CR4's total score was higher than AVG in e-Passport evaluation based on the iMGov4C Model.

CR5's Emotion Line (EL) for the e-Passport is shown in Figure 5-10.



**Figure 5-10: CR5 vs. AVG e-Passport Emotion Line (EL)**

Figure 5-11 shows another view of CR5 for the e-Passport using radar plots.



**Figure 5-11: CR5 vs. AVG e-Passport using Radar Plots**



Table 5-21 shows CR5's final score against AVG score for all phases in e-Passport evaluation based on the iMGov4C Model.

CR5	AVG
55.00	36.00

**Table 5-21: CR5 vs. AVG e-Passport per P1, P2, and P3**

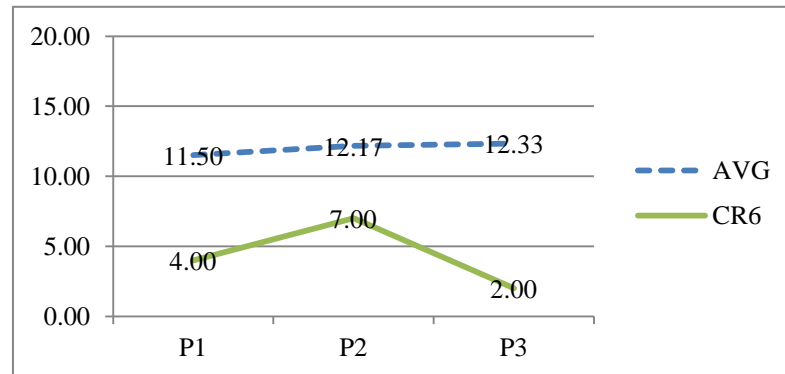
Table 5-22 shows CR5's final score, against AVG score per Phase in e-Passport evaluation based on the iMGov4C Model.

P	CR5	AVG
P1	17.00	11.50
P2	18.00	12.17
P3	20.00	12.33

**Table 5-22: CR5 vs. AVG e-Passport per Phase (P)**

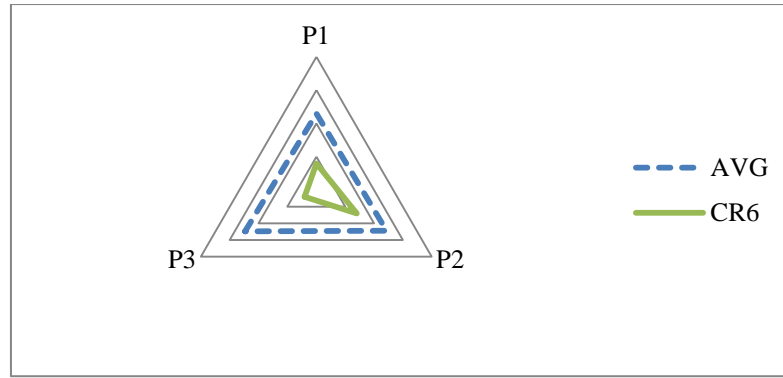
In conclusion, CR5's scores for the three e-Passport phases shows that the Delivering an Order Phase (P3) scored higher than the other two phases (P1 and P2); on the other hand, in comparison with the AVG, CR5's score is significantly higher than AVG in e-Passport evaluation based on the iMGov4C Model.

CR6's Emotion Line (EL) for the e-Passport is shown in Figure 5-12.



**Figure 5-12: CR6 vs. AVG e-Passport Emotion Line (EL)**

Figure 5-13 shows another view of CR6 for the e-Passport using radar plots.



**Figure 5-13: CR6 vs. AVG e-Passport using Radar Plots**

Table 5-23 shows CR6's final score, against AVG score for all phases in e-Passport evaluation based on the iMGov4C Model.

CR6	AVG
13.00	36.00

**Table 5-23: CR6 vs. AVG e-Passport per P1, P2, and P3**

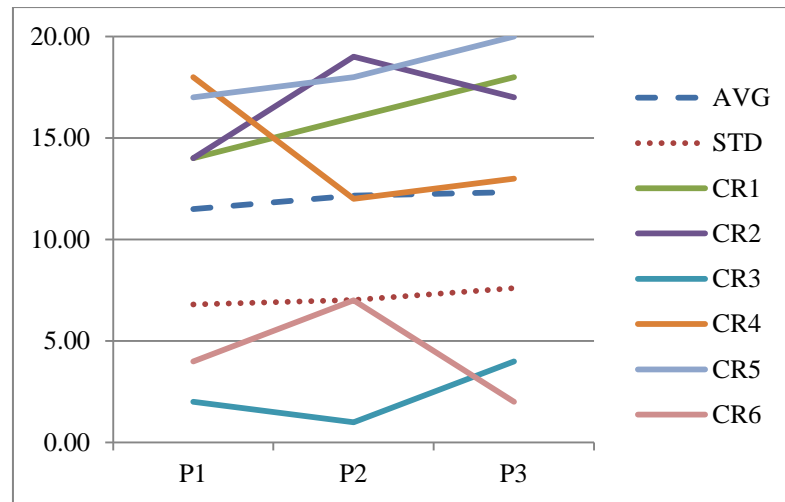
Table 5-24 shows CR6's final score against AVG score per phase in e-Passport evaluation based on the iMGov4C Model.

P	CR6	AVG
P1	4.00	11.50
P2	7.00	12.17
P3	2.00	12.33

**Table 5-24: CR6 vs. AVG e-Passport per Phase (P)**

In conclusion, CR6's scores for the three e-Passport phases shows that the Processing an Order Phase (P2) scored higher than the other two phases (P1 and P3); on the other hand, in comparison with the AVG, CR6 scored lower than AVG in e-Passport evaluation based on the iMGov4C Model.

In summary, Figure 5-14 shows the six citizens' responses (CR1, CR2, CR3, CR4, CR5, and CR6), for the evaluated e-Service (e-Passport), includes three phases (P) versus the Average (AVG), versus the Standard Deviation (STD). The analysis shows that CR3, and CR6 evaluated the e-Passport service much lower than the other four citizens (CR1, CR2, CR4, and CR5).



**Figure 5-14: CR vs. AVG vs. STD e-Passport Emotion Line (EL)**

The analysis shows that there is just over 50% satisfaction (36/60) with the e-Passport service, and that no Phase stands out as being particularly deficient. Further investigation into the results shows that iMGov4C/P1/A1/F2 with four negative responses should be looked at for a possible improvement in the service.

#### **5.4.3. Summary analysis of evaluated e-Services using iMGov4C Model**

This section presents the iMGov4C Model summary analysis for the selected evaluated e-Services by citizens in this research. First, the e-Service summary is presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, results in terms of average, and standard deviation (AVG, STD); second, qualitative comments made by citizens are highlighted; and third, important issues raised by the iMGov4C Model in evaluating the e-Service, and the final result are discussed.

#### **e-Passport analysis using iMGov4C Model**

The e-Passport analysis using the iMGov4C Model was presented earlier in the e-Passport full analysis section 5.4.2. The e-Passport summary details were also presented in Table 5-5. In this research, qualitative comments raised by citizens' feedback on e-Service were taken, and analysed using the iMGov4C Model. These comments are highlighted in Table 5-25.

<b>CR1</b>	<ul style="list-style-type: none"> <li>• Speed of the processing time</li> </ul>
<b>CR2</b>	<ul style="list-style-type: none"> <li>• Better than waiting in lines</li> </ul>
<b>CR3</b>	<ul style="list-style-type: none"> <li>• Only apply for the e-Service, but the citizen should do the rest of the procedure in person</li> <li>• Some kiosks are placed in a closed area where it is not available 24/7</li> <li>• Website is too complex because the organization is large</li> </ul>
<b>CR4</b>	<ul style="list-style-type: none"> <li>• Speed of the processing time</li> </ul>
<b>CR5</b>	<ul style="list-style-type: none"> <li>• Speed of the processing time</li> </ul>
<b>CR6</b>	<ul style="list-style-type: none"> <li>• Lack of kiosk per city</li> <li>• Payment is limited to banks</li> <li>• Help desk takes a while to provide an answer, and only by email, and SMS</li> </ul>

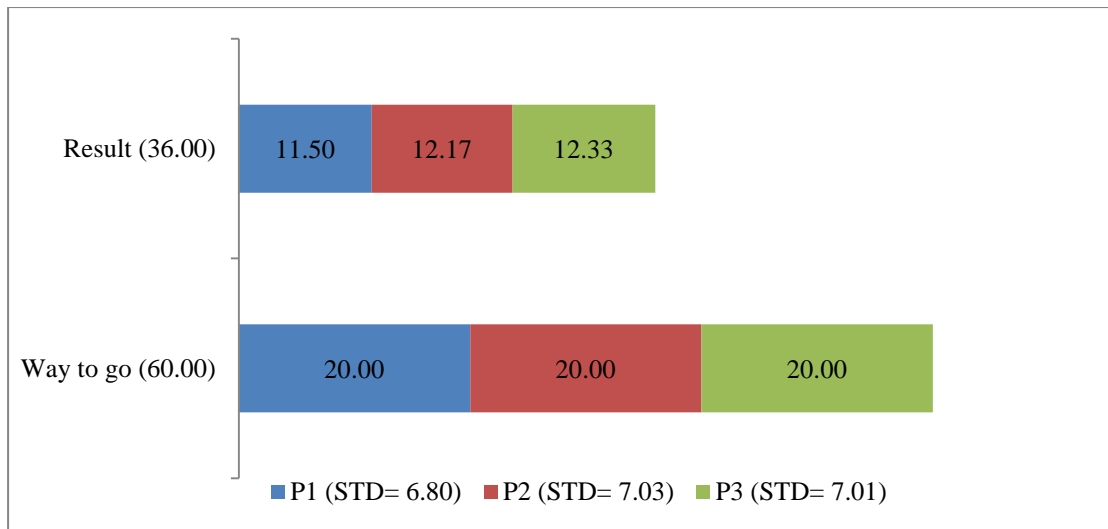
**Table 5-25: e-Passport Citizens' Qualitative Comments**

Based on citizens' feedback, further analysis using the iMGov4C model and site visits in regards to evaluating the e-Passport service, the analysis shows that four out of six responses were above the AVG. Citizens believe that although the service is not fully online, still is better than waiting in lines for long hours, and it speeds up the service processing time slightly. Table 5-26 emphasizes e-Passport pros, and cons.

<b>Pros</b>	<ol style="list-style-type: none"> <li>1. Based on six responses, four were above average</li> <li>2. Citizens believe that even though the service is not fully online, it is better than waiting in lines</li> <li>3. Speed of the processing time</li> </ol>
<b>Cons</b>	<ol style="list-style-type: none"> <li>1. Not fully online (citizens apply online, and do the rest in person)</li> <li>2. Lack of kiosks; for example, the city of Al-Madinah has three kiosks</li> <li>3. Only one payment method through banks (no options)</li> <li>4. Is only about booking an appointment system</li> <li>5. Website is too complex due to the huge size of the organization with so many services related to different departments</li> <li>6. Help desk or citizens support is only by email and SMS and it takes a while to receive an answer</li> <li>7. Without using the booking system citizens are not able to do it in person</li> <li>8. Kiosks are not well maintained, and down time occurred</li> </ol>

**Table 5-26: Important Issues for e-Passport (iMGov4C)**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating e-Passport is 36.00 out of 60.00. Figure 5-15 shows that there is room for improvement using the iMGov4C Model outcomes for better service and better citizen satisfaction. Full analysis for e-Passport using iMGov4C is shown in 5.4.2 and Appendix F page 145.



**Figure 5-15: e-Passport Final Results using iMGov4C (Way to Go)**

### University application analysis using iMGov4C Model

University application using iMGov4C will be presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, results in terms of average, and standard deviation (AVG, STD) as a whole model and per Phase, and notes. Table 5-27 shows University application iMGov4C summary.

<b>e-Service</b>	University application		
<b>Definition</b>	Using the university website to apply for admission		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	8		
<b>Results</b>	(P1) (P2) (P3)	AVG= 43.38	STD= 07.19
	(P1) Placing an Order	AVG= 10.88	STD= 02.75
	(P2) Processing an Order	AVG= 14.88	STD= 03.91
	(P3) Delivering an Order	AVG= 17.63	STD= 01.92
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-27: University Application evaluated by iMGov4C Summary**

Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-28.

<b>CR1</b>	• Speed of the processing time
<b>CR2</b>	• Better than waiting in lines
<b>CR3</b>	• Only apply for the e-Service but the citizen has to send the papers by post
<b>CR4</b>	• Speed of the processing time
<b>CR5</b>	• Better than waiting in lines
<b>CR6</b>	• Lack of kiosk per city • Payment is limited to banks • Help desk takes a while to reply and only by email and SMS
<b>CR7</b>	• Speed of the processing time and satisfied with the output
<b>CR8</b>	• Better than waiting in lines

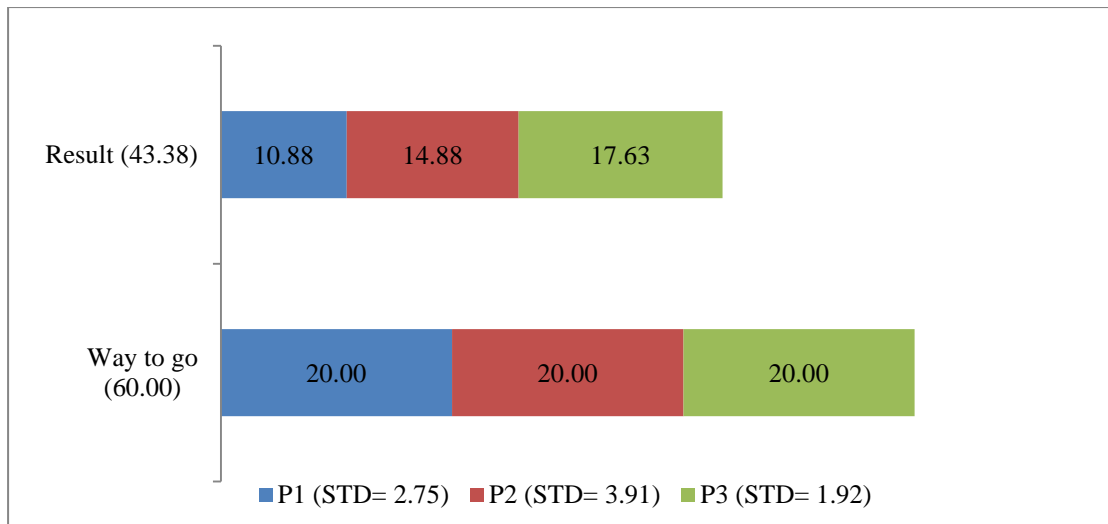
**Table 5-28: University Application Citizens' Qualitative Comments**

Based on citizens' feedback, further analysis of using the iMGov4C model, and site visits in regards to evaluating the e-Service, the analysis shows that integration and collaboration should be considered among different organization involved in providing the e-Service. Table 5-29 highlights evaluated e-Service pros, and cons.

<b>Pros</b>	1. Saves time
<b>Cons</b>	1. No help, and support 2. Need to send all the paper by post office 3. No alternatives citizen must apply online 4. Integration needed between universities, post office, and banks

**Table 5-29: Important Issues for University application (iMGov4C)**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating university application e-Service is 43.38 out of 60.00, with STD of 7.19. In addition the analysis shows that P1 scored the lowest AVG, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4C/P1/A1/F2, iMGov4C/P1/A3/F1, and iMGov4C/P1/A3/F2 scored the lowest. Figure 5-16 shows that there is room for improvement using the iMGov4C Model outcomes for better service and better citizen satisfaction. Full analysis for University Application using iMGov4C is shown in Appendix G page 154.



**Figure 5-16: University Application Final Results using iMGov4C (Way to Go)**

### **National ID card analysis using iMGov4C Model**

National ID card using iMGov4C will be presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, and results in term of average, and standard deviation (AVG, STD) as a whole model, and per Phase, and notes. Table 5-30 shows National ID card iMGov4C summary.

<b>e-Service</b>	National ID card		
<b>Definition</b>	Using the organization website to apply for national ID Card		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	11		
<b>Results</b>	(P1) (P2) (P3)	AVG= 45.09	STD= 08.65
	(P1) Placing an Order	AVG= 12.27	STD= 03.72
	(P2) Processing an Order	AVG= 15.73	STD= 03.10
	(P3) Delivering an Order	AVG= 17.09	STD= 03.65
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-30: National ID card evaluated by iMGov4C Summary**

Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-31.

<b>CR1</b>	• Speed of the processing time
<b>CR2</b>	• Better than waiting in lines
<b>CR3</b>	• Only apply for the e-Service but the citizen must do the rest of procedure in person
<b>CR4</b>	• Speed of the processing time
<b>CR5</b>	• Speed of the processing time
<b>CR6</b>	• Appointment only available once a week
<b>CR7</b>	• Not fully online
<b>CR8</b>	• Speed of the processing time
<b>CR9</b>	• Speed of the processing time
<b>CR10</b>	• Speed of the processing time
<b>CR11</b>	• Speed of the processing time

**Table 5-31: National ID card Citizens' Qualitative Comments**

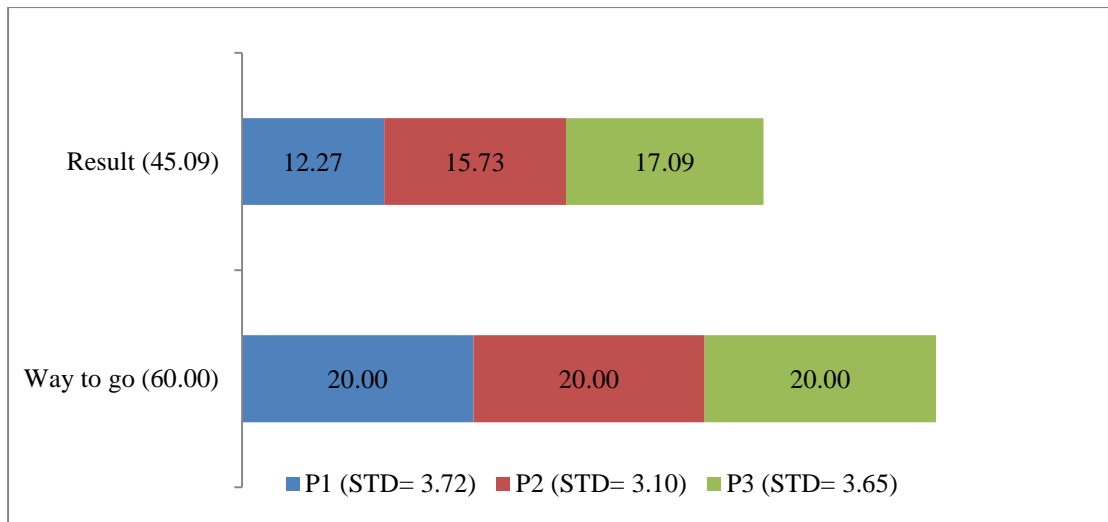
Based on citizens' feedback, further analysis was carried out using the iMGov4C model, and site visits in regards of evaluating the e-Service. The analysis shows that the e-Service is not fully online, but citizens were also satisfied. Table 5-32 emphasizes evaluated e-Service pros, and cons.

<b>Pros</b>	<ol style="list-style-type: none"> <li>1. Citizens are satisfied, and pleased with the big improvements that have been made to the service</li> <li>2. Free of charge</li> <li>3. Waiting time in the office is about 5 minutes</li> <li>4. New offices are open in shopping centres</li> <li>5. Extended working hours</li> <li>6. One portal for all regions, and cities</li> <li>7. All communication with citizens through SMS</li> </ol>
<b>Cons</b>	<ol style="list-style-type: none"> <li>1. Not fully online; citizens apply online and do the rest in person</li> <li>2. Only booking system</li> <li>3. Without booking online citizens are not able to apply for the service</li> <li>4. The service will be delivered 10 days after applying</li> <li>5. Some citizens do not have computers and Internet at home</li> </ol>

**Table 5-32: Important Issues for National ID card (iMGov4C)**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating National ID card e-Service is 45.09 out of 60.00, with STD of 8.65. In addition the analysis shows that P1 scored the lowest AVG, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4C/P1/A2/F3, and iMGov4C/P1/A3/F2 scored the lowest. Figure 5-17 shows that there is room for improvement using the iMGov4C Model outcomes for better service, and better citizen satisfaction. Full analysis for National ID card using iMGov4C is shown in Appendix H page 165.





**Figure 5-17: National ID card Final Results using iMGov4C (Way to Go)**

### **e-Gate analysis using iMGov4C Model**

e-Gate using iMGov4C will be presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, and results in term of average, and standard deviation (AVG, STD) as a whole model, and per Phase, and notes. Table 5-33 shows e-Gate iMGov4C summary.

<b>e-Service</b>	e-Gate		
<b>Definition</b>	Using the organization website to apply for e-Gate card that works as a passport in airports		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	6		
<b>Results</b>	(P1) (P2) (P3)	AVG= 34.00	STD= 16.79
	(P1) Placing an Order	AVG= 09.67	STD= 04.32
	(P2) Processing an Order	AVG= 10.17	STD= 05.74
	(P3) Delivering an Order	AVG= 14.17	STD= 07.70
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-33: e-Gate evaluated by iMGov4C Summary**

Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-34.

<b>CR1</b>	• No technical support
<b>CR2</b>	• Check in, but gate is not open
<b>CR3</b>	• Hard to navigate, and find flight and country
<b>CR4</b>	• Speed of the processing time
<b>CR5</b>	• Speed of the processing time
<b>CR6</b>	• Better than waiting in lines

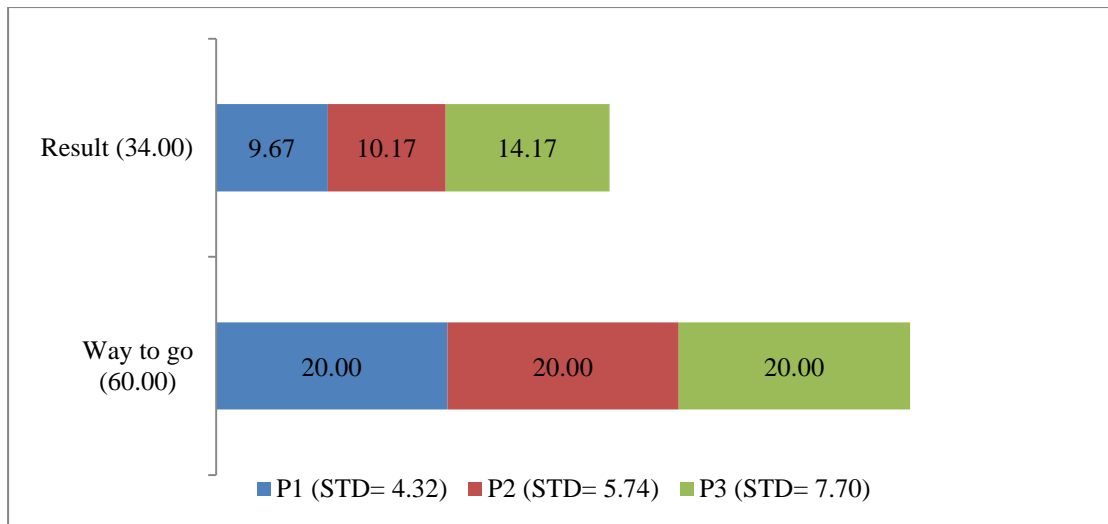
**Table 5-34: e-Gate Citizens' Qualitative Comments**

Based on citizens' feedback, further analysis was conducted using the iMGov4C model, and site visits in regards of evaluating the e-Service. The analysis shows that more attention and improvement should be considered in order to provide successful e-Service. Table 5-35 emphasizes evaluated e-service pros and cons.

<b>Pros</b>	1. Flexible - if gates not working citizens may use the traditional channels
<b>Cons</b>	1. Not fully online; citizens apply in person for the card 2. System is difficult to navigate 3. Lack of technical support 4. System is implemented, and maintained by third company 5. Experiencing downtime most of the time

**Table 5-35: Important Issues for e-Gate (iMGov4C)**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating e-Gate e-Service is 34.00 out of 60.00, with STD of 16.79. In addition the analysis shows that P1 scored the lowest AVG, and should be looked at first in order to achieve improvement. Further analysis shows that Factors iMGov4C/P1/A1/F2, and iMGov4C/P1/A3/F2 scored the lowest. Figure 5-18 shows that there is room for improvement using the iMGov4C Model outcomes for better service, and better citizen satisfaction. Full analysis for e-Gate using iMGov4C is shown in Appendix I page176.



**Figure 5-18: e-Gate Final Results using iMGov4C (Way to Go)**

### Scholarship analysis using iMGov4C Model

Scholarship using iMGov4C will be presented in form of e-Service, definition of e-service, evaluation model, number of citizens' responses, results in terms of average, and standard deviation (AVG, STD) as a whole model, and per Phase, and notes. Table 5-36 shows scholarship iMGov4C summary.

<b>e-Service</b>	Scholarship		
<b>Definition</b>	Using the organization website to apply for scholarship e-Services provided to students who study abroad		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	15		
<b>Results</b>	(P1) (P2) (P3)	AVG= 44.53	STD= 08.26
	(P1) Placing an Order	AVG= 11.87	STD= 08.26
	(P2) Processing an Order	AVG= 16.00	STD= 03.16
	(P3) Delivering an Order	AVG= 16.67	STD= 04.56
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-36: Scholarship evaluated by iMGov4C Summary**

Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-37.

<b>CR1</b>	• Speed of the processing time
<b>CR2</b>	• Save time
<b>CR3</b>	• Takes a long time to deliver the service
<b>CR4</b>	• Speed of the processing time
<b>CR5</b>	• Service is not found, and need extra effort to find it
<b>CR6</b>	• Delivering and processing the order was great
<b>CR7</b>	• Speed of the processing time
<b>CR8</b>	• Speed of the processing time
<b>CR9</b>	• The order was never delivered, and closed without any progress
<b>CR10</b>	• Not satisfied with placing an order
<b>CR11</b>	• Speed of the processing time
<b>CR12</b>	• Delivering and processing the order is great
<b>CR13</b>	• Easy to use the service
<b>CR14</b>	• Satisfied with delivering the order
<b>CR15</b>	• Difficulties in placing an order; cannot find the service

**Table 5-37: Scholarship Citizens' Qualitative Comments**

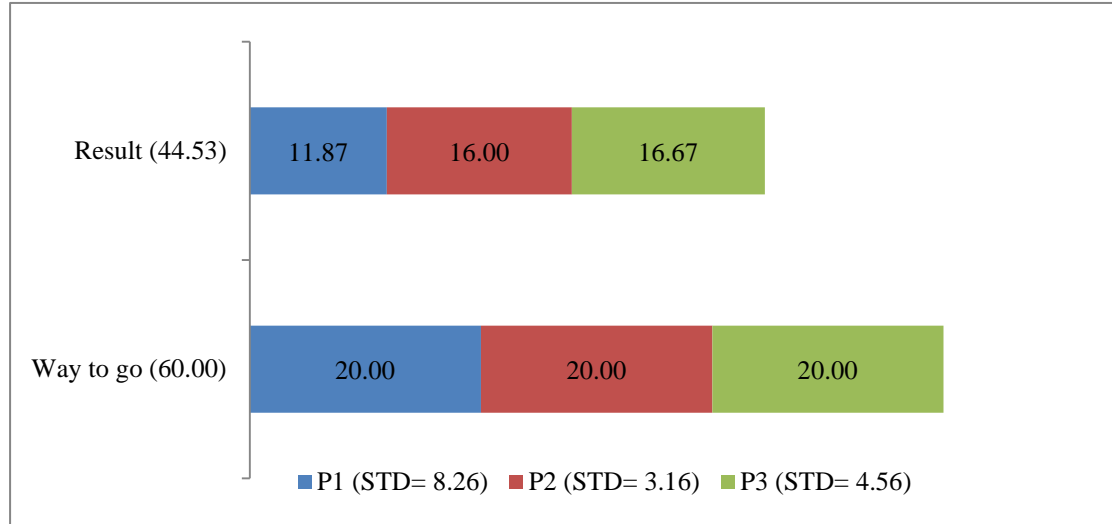
Based on citizens' feedback, further analysis was conducted using the iMGov4C model, and site visits with regards to evaluating the e-Service. The analysis shows that improvements have been made through trial and error over the 10 past years, in order to provide better e-Service from the organization's point of view, where the alternative seems to be neglected; for example, help and support over the phone since the website was established has improved. Table 5-38 emphasizes evaluated e-Service pros, and cons.

<b>Pros</b>	<ol style="list-style-type: none"> <li>1. Citizens satisfied with both placing, and delivering an order</li> <li>2. Learn how to use the services by uploading YouTube videos</li> <li>3. The services improved over time (10 years)</li> </ol>
<b>Cons</b>	<ol style="list-style-type: none"> <li>1. To upload, files must be a certain size</li> <li>2. Online only, no alternatives</li> <li>3. Processing time is a long procedures sometimes; for example, supervisor, supervisor manager, and committee</li> <li>4. Not all services available</li> <li>5. Support over phone takes a long time to answer</li> <li>6. Integration with universities may take longer to process an order</li> <li>7. Orders sometimes get closed by the system due to the order being with no action</li> </ol>

**Table 5-38: Important Issues for Scholarship (iMGov4C)**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating scholarship e-Service is 44.53 out of 60.00, with STD of 08.26. In addition the analysis shows that P1 scored the lowest AVG, and should be looked at first in order to achieve improvement. Further analysis shows that Factor

iMGov4C/P1/A3/F2 scored the lowest. Figure 5-19 shows that there is room for improvement using the iMGov4C Model outcomes for better service and greater citizen satisfaction. Full analysis for Scholarship using iMGov4C is shown in Appendix J page 183.



**Figure 5-19: Scholarship Final Results using iMGov4C (Way to Go)**

### **Traffic Violations analysis using iMGov4C Model**

Traffic violations using iMGov4C will be presented in form of e-Service definition of e-Service, evaluation model, number of citizens' responses, and results in term of average, and standard deviation (AVG, STD) as a whole model and per Phase, and notes. Table 5-39 shows Traffic violations iMGov4C summary.

<b>e-Service</b>	Traffic violations		
<b>Definition</b>	Using the organization website to query traffic violations		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	4		
<b>Results</b>	(P1) (P2) (P3)	AVG= 47.50	STD= 04.36
	(P1) Placing an Order	AVG= 16.75	STD= 01.89
	(P2) Processing an Order	AVG= 14.50	STD= 02.65
	(P3) Delivering an Order	AVG= 16.25	STD= 02.99
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-39: Traffic Violations evaluated by iMGov4C Summary**

Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-40.

<b>CR1</b>	• Save time
<b>CR2</b>	• Easy to use
<b>CR3</b>	• Better than waiting in lines
<b>CR4</b>	• Hard to find the service

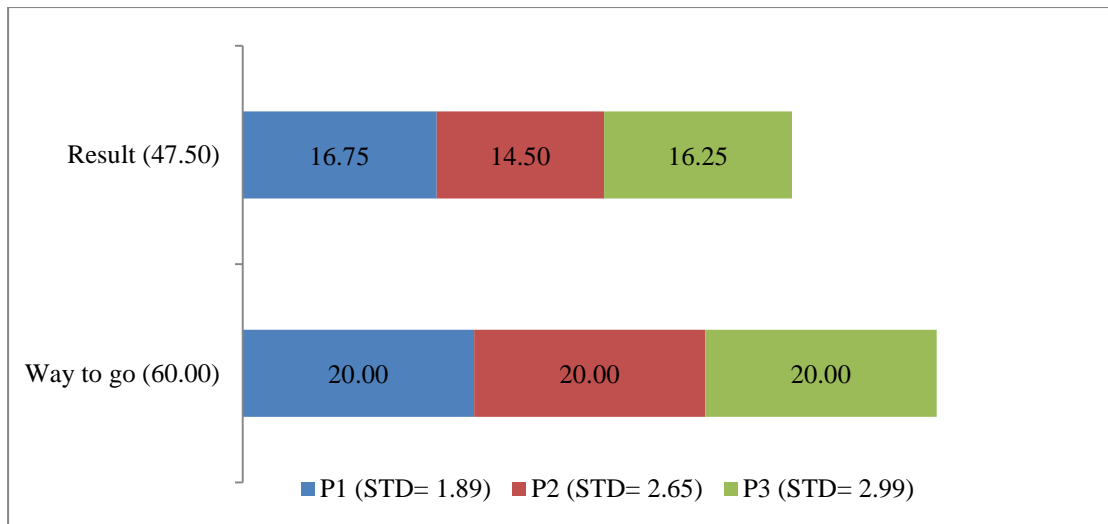
**Table 5-40: Traffic Violations Citizens' Qualitative Comments**

Based on citizens' feedback, further analysis was conducted using the iMGov4C model, and site visits with regards to evaluating the e-Service. The analysis shows that more attention and improvement should be considered in order to provide successful e-Service. Table 5-41 emphasizes evaluated e-Service pros, and cons.

<b>Pros</b>	<ol style="list-style-type: none"> <li>1. Better than waiting in lines to query traffic violation</li> <li>2. Easy to use the service</li> <li>3. Integrated with other organizations</li> <li>4. SMS used for communication</li> </ol>
<b>Cons</b>	<ol style="list-style-type: none"> <li>1. Only one payment method is available by bank transfer</li> <li>2. Hard to reach and find the service</li> </ol>

**Table 5-41: Important Issues for Traffic Violations (iMGov4C)**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating traffic violations e-Service is 47.50 out of 60.00, with STD of 04.36. In addition the analysis shows that P1 scored the lowest AVG, and should be looked at first in order to achieve improvement. Further analysis shows that factor iMGov4C/P2/A2/F3 scored the lowest. Figure 5-20 shows that there is room for improvement using the iMGov4C Model outcomes for better service and greater citizen satisfaction. Full analysis for Traffic Violations using iMGov4C is shown in Appendix K page 197.



**Figure 5-20: Traffic Violations Final Results using iMGov4C (Way to Go)**

### Loan Request analysis using iMGov4C Model

Loan request using iMGov4C will be presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, Results in term of average, and standard deviation (AVG, STD) as a whole model and per Phase, and notes. Table 5-42 shows Loan request iMGov4C summary.

<b>e-Service</b>	Loan request		
<b>Definition</b>	Using the organization website to apply for a loan provided by the government to citizens		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	4		
<b>Results</b>	(P1) (P2) (P3)	AVG= 32.75	STD= 08.18
	(P1) Placing an Order	AVG= 10.75	STD= 04.27
	(P2) Processing an Order	AVG= 10.50	STD= 02.38
	(P3) Delivering an Order	AVG= 11.50	STD= 02.08
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-42: Loan Request evaluated by iMGov4C Summary**

Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-43.

<b>CR1</b>	• Easy to use
<b>CR2</b>	• Easy to find
<b>CR3</b>	• Experiencing down time
<b>CR4</b>	• Simple procedure

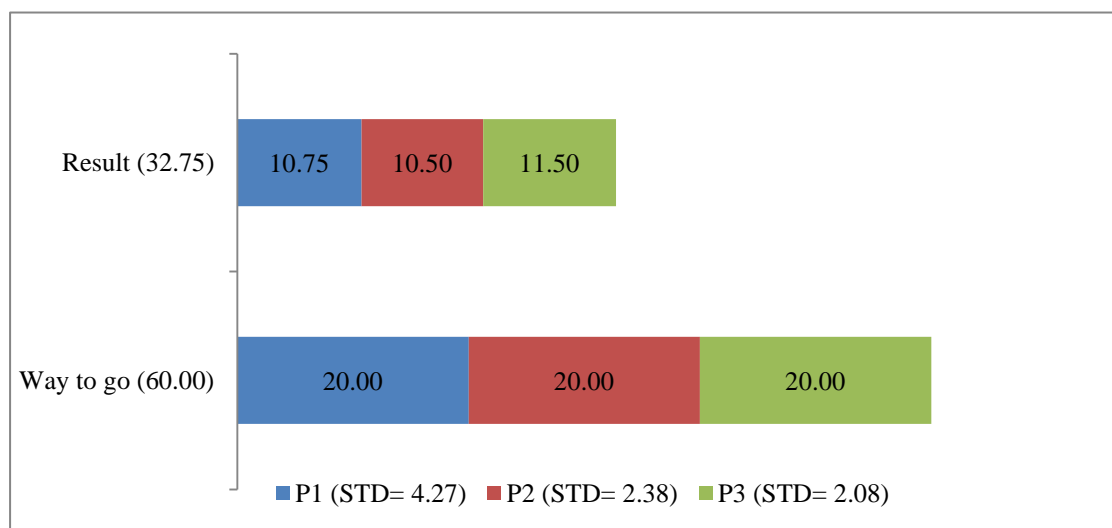
**Table 5-43: Loan Request Citizens' Qualitative Comments**

Based on citizens' feedback, further analysis was conducted using the iMGov4C model and site visits with regards to evaluating the e-Service. The analysis shows that more attention and improvement should be considered in order to provide successful e-Service. Table 5-44 emphasizes evaluated e-Service pros, and cons.

<b>Pros</b>	1. Easy to find 2. Easy to apply
<b>Cons</b>	1. Experiencing downtime 2. Citizens apply but there is no time frame for delivering the order - it might take years

**Table 5-44: Important Issues for Loan Request (iMGov4C)**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating loan request e-Service is 32.75 out of 60.00, with STD of 08.18. In addition the analysis shows that P2 scored the lowest AVG, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4C/P2/A2/F3 scored the lowest. Figure 5-21 shows that there is room for improvement using the iMGov4C Model outcomes for better service, and greater citizen satisfaction. Full analysis for Loan Request using iMGov4C is shown in Appendix L page 203.



**Figure 5-21: Loan Request Final Results using iMGov4C (Way to Go)**



## Job Application analysis using iMGov4C Model

Job application using iMGov4C will be presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, results in terms of average, and standard deviation (AVG, STD) as a whole model and per Phase, and notes. Table 5-45 shows Job application iMGov4C summary.

<b>e-Service</b>	Job application		
<b>Definition</b>	Using the organization website to help citizens who do not have a job to find one by offering monthly allowance for one year plus training until they find a suitable job		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	7		
<b>Results</b>	(P1) (P2) (P3)	AVG= 44.17	STD= 11.55
	(P1) Placing an Order	AVG= 10.83	STD= 03.13
	(P2) Processing an Order	AVG= 15.67	STD= 04.55
	(P3) Delivering an Order	AVG= 17.67	STD= 04.80
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

**Table 5-45: Job Application evaluated by iMGov4C Summary**

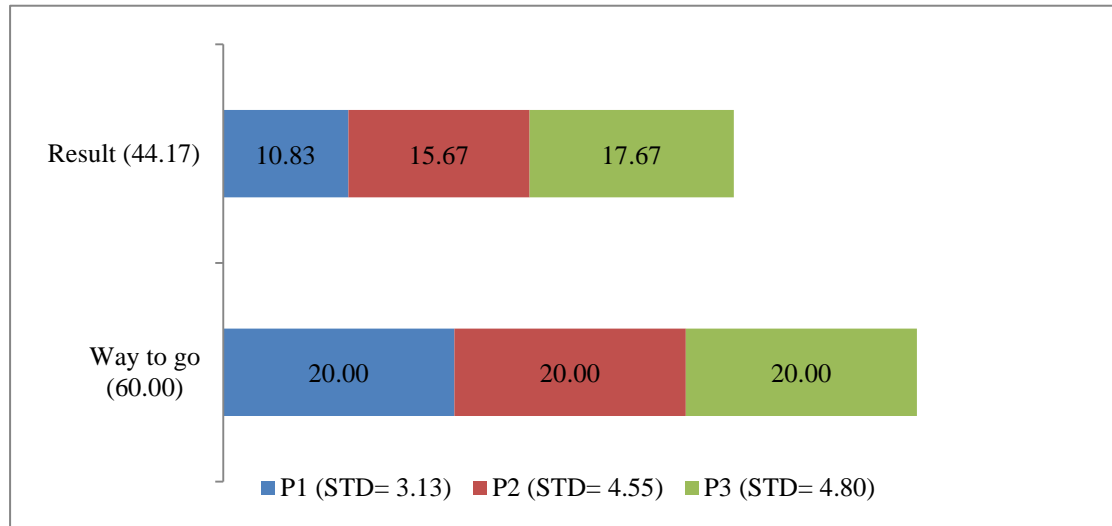
Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-46.

<b>CR1</b>	• The service was hard to use at first, and then we got used to it
<b>CR2</b>	• Difficult to understand but satisfied with the results
<b>CR3</b>	• Does not have computer, and has to use public place to log on each month
<b>CR4</b>	• Does not have computer, and has to use public place to log on each month
<b>CR5</b>	• Easy to use
<b>CR6</b>	• Does not have computer, and has to use public place to log on each month
<b>CR7</b>	• Saves effort

**Table 5-46: Job Application Citizens' Qualitative Comments**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating loan request e-Service is 44.17 out of 60.00, with STD of 11.55. In addition the analysis shows that P1 scored the lowest AVG, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4C/P1/A3/F1 and iMGov4C/P1/A3/F2 scored the lowest. Figure 5-22 shows

that there is room for improvement using the iMGov4C Model outcomes for better service and greater citizen satisfaction. Full analysis for Job Application using iMGov4C is shown in Appendix M page 209.



**Figure 5-22: Job Application Final Results using iMGov4C (Way to Go)**

#### **e-Visa analysis using iMGov4C Model**

e-Visa using iMGov4C will be presented in the form of e-Service, definition of e-Service, evaluation model, number of citizens' responses, and results in term of average, and standard deviation (AVG, STD) as a whole model and per Phase, and notes. Table 5-47 shows Job application iMGov4C summary.

<b>e-Service</b>	e-Visa		
<b>Definition</b>	Using the organization website to apply for family visit visas for first degree relatives		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	9		
<b>Results</b>	(P1) (P2) (P3)	AVG= 42.78	STD= 12.18
	(P1) Placing an Order	AVG= 14.33	STD= 04.12
	(P2) Processing an Order	AVG= 13.56	STD= 04.39
	(P3) Delivering an Order	AVG= 14.89	STD= 04.62
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

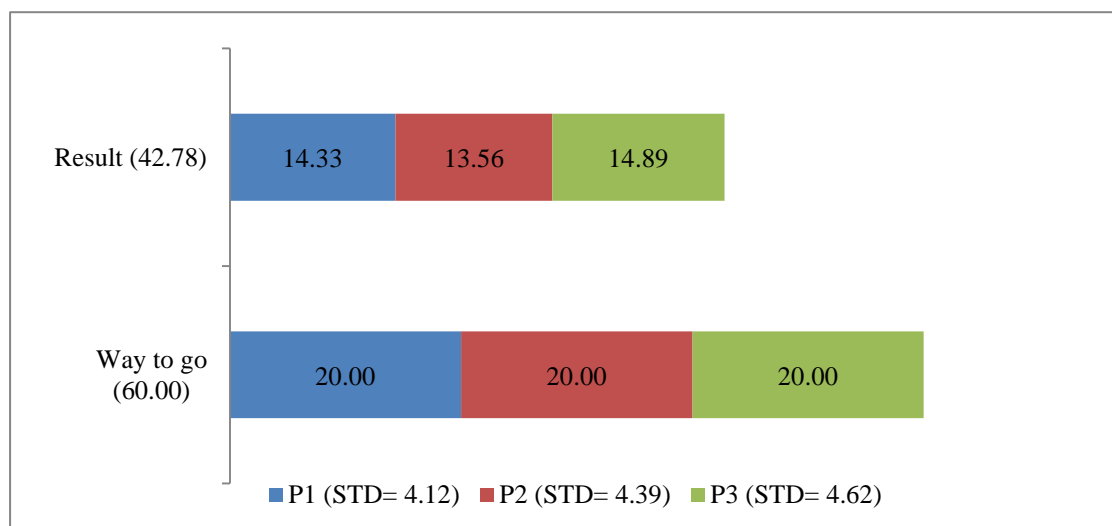
**Table 5-47: e-Visa evaluated by iMGov4C Summary**

Qualitative comments raised by citizens' feedback on the evaluated e-Service were taken. These comments are highlighted in Table 5-48.

<b>CR1</b>	• Cannot use the service due to downtime
<b>CR2</b>	• Good, but needs further enhancements
<b>CR3</b>	• Saves time
<b>CR4</b>	• Saves effort • Saves time
<b>CR5</b>	• Seems not trusted
<b>CR6</b>	• No help or support
<b>CR7</b>	• Takes a long time to process an order
<b>CR8</b>	• Saves time
<b>CR9</b>	• Saves time • Saves effort

**Table 5-48: e-Visa Citizens' Qualitative Comments**

In conclusion, the final result based on AVG using the iMGov4C Model for evaluating e-Visa service is 42.78 out of 60.00, with STD of 12.18. In addition the analysis shows that P2 scored the lowest AVG and should be looked at first in order to achieve improvement. Further analysis shows that Factor iMGov4C/P2/A2/F1 scored the lowest. Figure 5-23 shows that there is room for improvement using the iMGov4C Model outcomes for better service and greater citizen satisfaction. Full analysis for e-Visa using iMGov4C is shown in Appendix N page 217.



**Figure 5-23: e-Visa Final Results using iMGov4C (Way to Go)**

## 5.5. The iMGov4E Results

In this section, results for specified e-Services being evaluated by an Expert using the iMGov4E Model as personal technical analysis is presented, analysed, and discussed in the form of a collective summary of all evaluated e-Services, full analysis for e-Passport service, and finally a summary of other e-Services. The evaluated e-Service will be presented in the form of e-Service, definition of e-Service, evaluation model, number of responses, evaluation results as a whole model and per phase, and notes. In the iMGov4E Model, P1 and P3 have an equal weight of 20 each; whereas P2 has a weight of 60. In P2 an expert evaluates factors that are more complicated for the citizen with normal experience in e-Government service to evaluate. Therefore, careful comparison should be applied when it comes to comparing iMGov4C with iMGov4E. In this section results for specified e-Services evaluated by experts is presented, analysed and discussed in the form of a collective summary of all evaluated e-Services, full analysis for e-Passport, and finally a summary of all evaluated e-Services.

### 5.5.1. Collective summary of all evaluated e-Services using iMGov4E

The collective summary of all evaluated e-Services by Expert (E) using the iMGov4E Model will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, and evaluation results as a whole model. The collective summary of all evaluated e-Services by an Expert using the iMGov4E Model is presented in Table 5-49.

No.	e-Service	# of Expert Response	Evaluation Results		
			(P1)	(P2)	(P3)
1	e-Passport	1	54		
			10	35	9
2	University Application	1	77		
			12	47	18
3	National ID card	1	78		
			12	47	19
4	e-Gate	1	41		
			7	24	10
5	Scholarship	1	77		
			12	49	16
6	Traffic Violations	1	85		
			18	49	18
7	Loan Request	1	57		
			13	30	14
8	Job application	1	85		

No.	e-Service	# of Expert Response	Evaluation Results		
			(P1)	(P2)	(P3)
			14	51	20
9	e-Visa Services	1	45		
			9	29	7
		9			

**Table 5-49: Collective Summary of all Evaluated e-Services using iMGov4E**

The evaluation result is out of 100 (See section 3.4.). The results of the collective summary of all evaluated e-Services by an Expert shows that job applications, and traffic violations achieved the highest score (85), and e-Gate achieved the lowest score (41). Table 5-50 shows the evaluated e-Service in order from highest to lowest scores.

No.	e-Service
1	Job application
1	Traffic violations
2	National ID card
3	University application
3	Scholarship
4	Loan Request
5	e-Passport
6	e-Visa
7	e-Gate

**Table 5-50: List of Evaluated e-Services from Highest to Lowest score using iMGov4E**

### 5.5.2. Full analysis for e-Passport using iMGov4E

In this section, full analysis of e-Passport by an Expert using the iMGov4E Model will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, and evaluation results as a whole model and per Phase, and notes. Table 5-51 shows e-Passport iMGov4E summary.

<b>e-Service</b>	e-Passport	
<b>Definition</b>	Using the government website to apply for a passport	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 54.00
	(P1) Placing an Order	Evaluation Result = 10.00
	(P2) Processing an Order	Evaluation Result = 35.00
	(P3) Delivering an Order	Evaluation Result = 09.00

<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20
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**Table 5-51: e-Passport evaluated by iMGov4E Summary**

Table 5-52 shows the number of Expert Response (ER) per Factor (F) for each Phase (P) and the number of positive, neutral, and negative responses by the Expert who evaluated the e-Passport. The more positive responses received, the higher the evaluation results will be. In addition, from the research perspective the number of responses will highlight the strengths and weaknesses of specific evaluated e-Service by focusing on the smallest element of the evaluation criteria (Factor) used in this research. For example, Path E/P1/A1/F1 measures the e-Government service on P1 Placing an Order, which includes A1, Accessibility, which in turn includes three factors (F1, F2, and F3). In F1, one positive response was given by the expert.

<b>Path</b>	<b># of 2 (Positive)</b>	<b># of 1 (Neutral)</b>	<b># of 0 (Negative)</b>
<b>E/P1/F0</b>	1	0	0
<b>E/P1/A1/F1</b>	1	0	0
<b>E/P1/A1/F2</b>	1	0	0
<b>E/P1/A1/F3</b>	0	0	1
<b>E/P1/A2/F1</b>	0	0	1
<b>E/P1/A2/F2</b>	0	0	1
<b>E/P1/A2/F3</b>	1	0	0
<b>E/P1/A3/F1</b>	0	0	1
<b>E/P1/A3/F2</b>	0	0	1
<b>E/P1/A3/F3</b>	1	0	0

**Table 5-52: Number of Expert's responses per Factor for Phase 1 (e-Passport)**

Table 5-53 shows the total number of Expert responses per Phase, and the number of positive, neutral, and negative responses by the Expert who evaluated the e-Passport. The more positive responses there are, the higher the evaluation results will be. In addition, from the research perspective the number of responses will highlight the strengths and weaknesses of a specific evaluated e-Service by focusing on the Phase. For example: P1 is related to Placing an Order which focuses on three attributes: Accessibility (A1), Availability (A2), and Flexibility (A3). Five of the responses received were positive, none were neutral and five were negative.

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	5	10	10 Factors * 1 Response
# of 1 (Neutral)/P	0	1	1 Factor * 1 Response
# of 0 (Negative)/P	5	10	10 Factors * 1 Response

**Table 5-53: Total Number of Expert's Responses for Phase 1 (e-Passport)**

Table 5-54 shows the number of Expert responses per Factor for P2, and the number of positive, neutral, and negative responses by the Expert who evaluated the e-Passport service.

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P2/F0	0	1	0
E/P2/A1/F1	1	0	0
E/P2/A1/F2	1	0	0
E/P2/A1/F3	1	0	0
E/P2/A1/F4	0	0	1
E/P2/A2/F1	0	1	0
E/P2/A2/F2	0	1	0
E/P2/A2/F3	1	0	0
E/P2/A2/F4	0	1	0
E/P2/A3/F1	1	0	0
E/P2/A3/F2	0	0	1
E/P2/A3/F3	0	0	1
E/P2/A4/F1	1	0	0
E/P2/A4/F2	1	0	0
E/P2/A4/F3	1	0	0
E/P2/A4/F4	1	0	0
E/P2/A4/F5	1	0	0
E/P2/A4/F6	0	1	0
E/P2/A4/F7	0	1	0
E/P2/A5/F1	1	0	0
E/P2/A5/F2	0	0	1
E/P2/A5/F3	1	0	0
E/P2/A5/F4	0	1	0
E/P2/A5/F5	0	0	1
E/P2/A5/F6	0	0	1
E/P2/A6/F1	0	0	1
E/P2/A6/F2	0	1	0
E/P2/A7/F1	0	0	1
E/P2/A7/F2	1	0	0

<b>E/P2/A7/F3</b>	1	0	0
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**Table 5-54: Number of Expert's Response per Factor for Phase 2 (e-Passport)**

Table 5-55 shows the total number of expert's responses for P2, and the number of positive, neutral, and negative responses by citizens who evaluated the e-Passport service.

	<b>Results</b>	<b>Out of</b>
<b># of R/P</b>	1	1
<b># of 2 (Positive)/P</b>	14	30
<b># of 1 (Neutral)/P</b>	7	8
<b># of 0 (Negative)/P</b>	9	30

**Table 5-55: Total Number of Expert's Responses for Phase 2 (e-Passport)**

Table 5-56 shows the number of expert's responses per Factor for P3, and the number of positive, neutral, and negative responses by citizens who evaluated the e-Passport service.

<b>Path</b>	<b># of 2 (Positive)</b>	<b># of 1 (Neutral)</b>	<b># of 0 (Negative)</b>
<b>E/P3/F0</b>	0	1	0
<b>E/P3/A1/F1</b>	1	0	0
<b>E/P3/A1/F2</b>	0	0	1
<b>E/P3/A1/F3</b>	0	1	0
<b>E/P3/A2/F1</b>	0	1	0
<b>E/P3/A2/F2</b>	0	0	1
<b>E/P3/A2/F3</b>	0	0	1
<b>E/P3/A3/F1</b>	1	0	0
<b>E/P3/A3/F2</b>	1	0	0
<b>E/P3/A3/F3</b>	0	0	1

**Table 5-56: Number of Expert's Responses per Factor for Phase 3 (e-Passport)**

Table 5-57 shows the total number of expert's responses for P3, and the number of positive, neutral, and negative responses by expert who evaluated the e-Passport service.



	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	3	10
# of 1 (Neutral)/P	3	5
# of 0 (Negative)/P	4	10

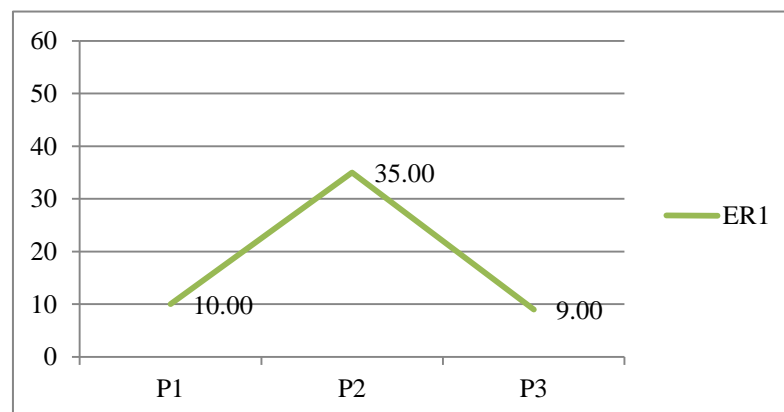
**Table 5-57: Total Number of Expert's Responses for Phase 3 (e-Passport)**

In summary, Table 5-58 shows the total number of expert's responses for the e-Passport service in terms of positive, neutral, and negative responses for the iMGov4E Model.

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	22	50
# of 1 (Neutral)/E	10	14
# of 0 (Negative)/E	18	50

**Table 5-58: Total Number of Expert's Responses (e-Passport)**

Figure 5-24 shows a study of the expert's responses which will be worked through in order, to better understand and clarify the results. The Emotion Line (EL) shows expert 1's response (ER1) for the e-Passport. The statistics for e-Passport evaluation based on the iMGov4E Model 3 phases, show that it scored more in the Processing an Order phase (P2), than the other two phases (P1 and P3); the reason for this result is that Phase 2 is out of 60.



**Figure 5-24: ER1 e-Passport Emotion Line (EL)**

Table 5-59 shows the ER1 final score for all phases in e-Passport evaluation based on the iMGov4E Model.

ER1
54.00

**Table 5-59: ER1 e-Passport per P1, P2, and P3**

Table 5-60 shows the ER1 final score per phase in e-Passport evaluation based on the iMGov4E Model.

P	ER1
P1	10.00
P2	35.00
P3	09.00

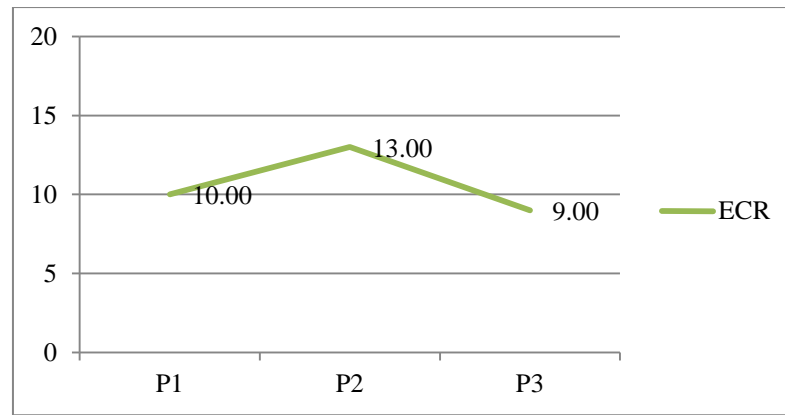
**Table 5-60: ER1 e-Passport per Phase (P)**

In conclusion, mapping factors within P2 in the iMGov4E, with the relevant factors within iMGov4C, for the purpose of compression is crucial to make a relationship for further study if needed. Table 5-61 shows the mapped factors for P2 between iMGov4E, and iMGov4C.

iMGov4C	iMGov4E
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

**Table 5-61: iMGov4C, and iMGov4E Mapped Factors for Phase 2**

As a result of the mapped factors, the evaluation result for e-Passport using the iMGov4E Model mapped factors in P2 is 13, and the total result per e-Passport is 31. Figure 5-25 shows the result using iMGov4E mapped to iMGov4C (ECR) for e-Passport.



**Figure 5-25: iMGov4E Mapped to iMGov4C (ECR) for e-Passport Emotion Line (EL)**

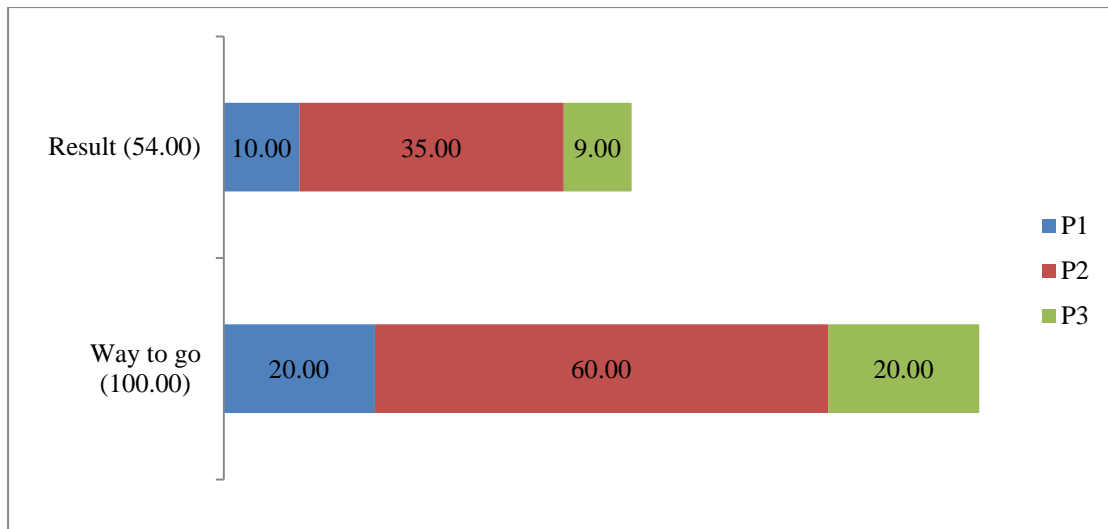
### **5.5.3. Summary analysis of evaluated e-Services using iMGov4E Model**

In this section, iMGov4E Model summary analysis is given for the selected evaluated e-Services by expert in this research. First, an e-Service summary will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, and results.

#### **e-Passport analysis using iMGov4E Model**

The e-Passport analysis using the iMGov4E Model was presented earlier in the e-Passport full analysis section 5.5.2. The e-Passport summary details were also presented in Table 5-51.

In conclusion, the final result based on results using the iMGov4E Model for evaluating e-Passport e-Service is 54.00 out of 100.00, and 33.00 out of 60.00. In addition, the analysis shows that P3 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4E/P3/A1/F2, iMGov4E/P3/A2/F2, iMGov4E/P3/A2/F3, and iMGov4E/P3/A3/F3 scored the lowest. Figure 5-26 shows that there is room for improvement using the iMGov4E Model outcomes for better service and greater citizen satisfaction. Full analysis for e-Passport using iMGov4E is shown in 5.5.2 and Appendix P page 228.



**Figure 5-26: iMGov4E for e-Passport (Way to Go)**

### University Application analysis using iMGov4E Model

University application using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, and results as a whole model and per Phase, and notes. Table 5-62 shows University application iMGov4E summary.

<b>e-Service</b>	University application	
<b>Definition</b>	Using the university website to apply for admission	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 77.00
	(P1) Placing an Order	Evaluation Result = 12.00
	(P2) Processing an Order	Evaluation Result = 47.00
	(P3) Delivering an Order	Evaluation Result = 18.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-62: University Application evaluated by iMGov4E Summary**

In conclusion, the final result based on results using the iMGov4E Model for evaluating the University application e-Service is 77.00 out of 100.00, and 48.00 out of 60.00. In addition, the analysis shows that P1 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors

iMGov4E/P1/A1/F1, iMGov4E/P1/A2/F1, iMGov4E/P1/A2/F2, iMGov4E/P1/A2/F3, iMGov4E/P1/A3/F1, and iMGov4E/P1/A3/F2 scored the lowest. Figure 5-27 shows that there is room for improvement using the iMGov4E Model outcomes for better service, and greater citizen satisfaction. Full analysis for University Application using iMGov4E is shown in Appendix Q page 232.

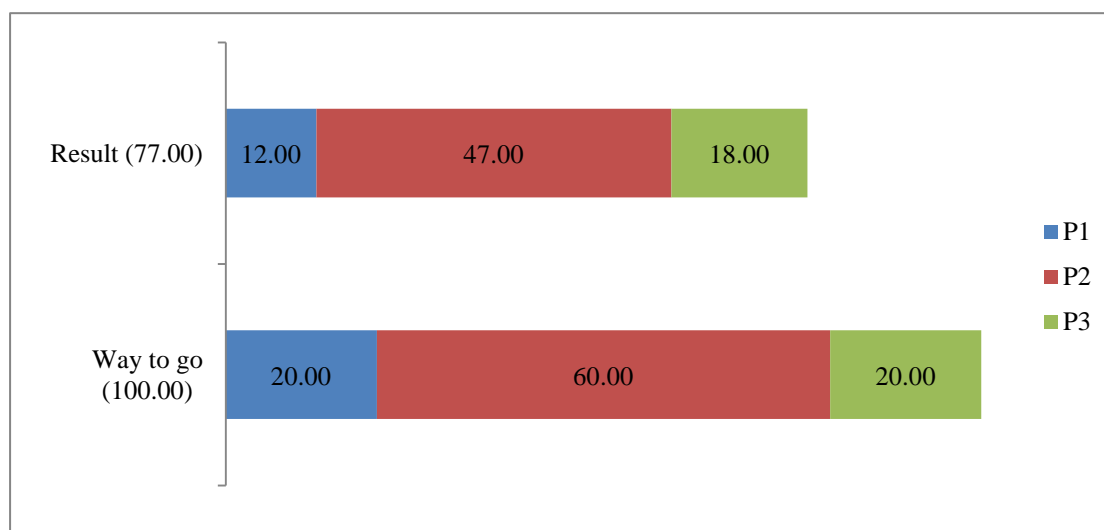


Figure 5-27: iMGov4E for University Application (Way to Go)

### National ID card analysis using iMGov4E Model

National ID card using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, and results as a whole model and per Phase, and notes. Table 5-63 shows National ID card iMGov4E summary.

<b>e-Service</b>	National ID Card	
<b>Definition</b>	Using the organization website to apply for national ID Card	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 78.00
	(P1) Placing an Order	Evaluation Result = 12.00
	(P2) Processing an Order	Evaluation Result = 47.00
	(P3) Delivering an Order	Evaluation Result = 19.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-63: National ID card evaluated by iMGov4E Summary**

In conclusion, the final result based on results using the iMGov4E Model for evaluating National ID card e-Service is 78.00 out of 100.00, and 51.00 out of 60.00. In addition the analysis shows that P1 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4E/P1/A1/F2, iMGov4E/P1/A2/F3, iMGov4E/P1/A3/F1, and iMGov4E/P1/A3/F2 scored the lowest. Figure 5-28 shows that there is room for improvement using the iMGov4E Model outcomes for better service and greater citizen satisfaction. Full analysis for National ID card using iMGov4E is shown in Appendix R page 237.



**Figure 5-28: iMGov4E for National ID card (Way to Go)**

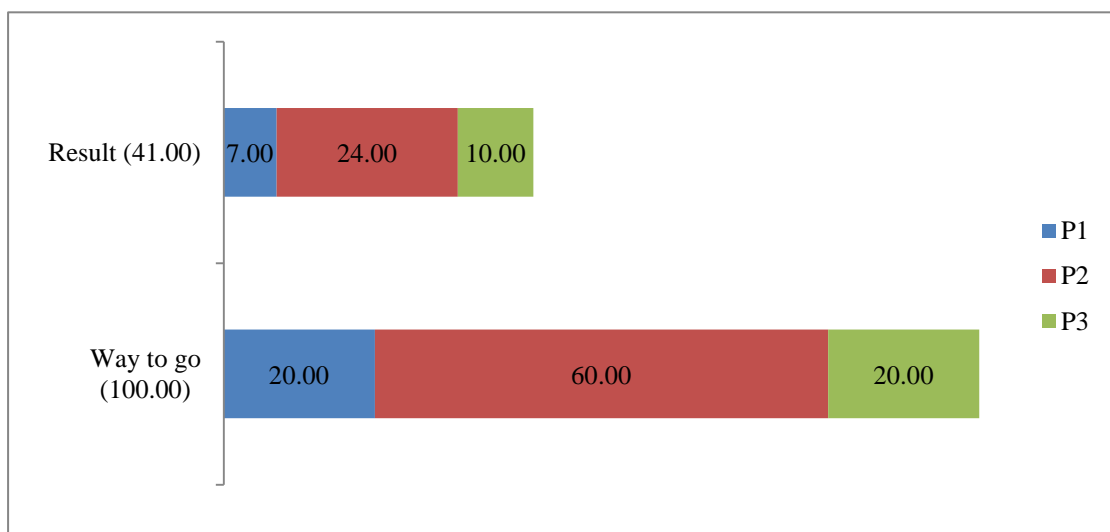
### **e-Gate analysis using iMGov4E Model**

e-Gate using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, and results as a whole model and per Phase, and notes. Table 5-64 shows e-Gate iMGov4E summary.

<b>e-Service</b>	e-Gate	
<b>Definition</b>	Using the organization website to apply for an e-Gate card that works as a passport in airports	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 41.00
	(P1) Placing an Order	Evaluation Result = 07.00
	(P2) Processing an Order	Evaluation Result = 24.00
	(P3) Delivering an Order	Evaluation Result = 10.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-64: e-Gate evaluated by iMGov4E Summary**

In conclusion, the final result based on results using the iMGov4E Model for evaluating e-Gate e-Service is 41.00 out of 100.00, and 31.00 out of 60.00. In addition the analysis shows that P1 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4E/P1/A1/F1, iMGov4E/P1/A1/F2, iMGov4E/P1/A2/F1, iMGov4E/P1/A2/F3, iMGov4E/P1/A3/F1, and iMGov4E/P1/A3/F2 scored the lowest. Figure 5-29 shows that there is room for improvement using the iMGov4E Model outcomes for better service and greater citizen satisfaction. Full analysis for e-Gate using iMGov4E is shown in Appendix S page 241.



**Figure 5-29: iMGov4E for e-Gate (Way to Go)**

### Scholarship analysis using iMGov4E Model

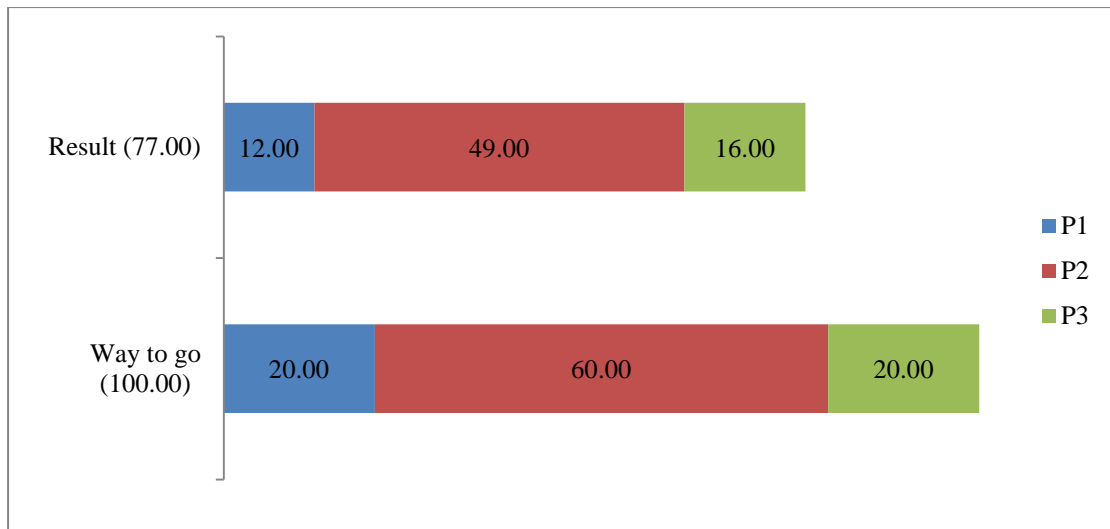
Scholarship using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation Model, number of expert responses, and results as a whole model and per Phase, and notes. Table 5-65 shows scholarship iMGov4E summary.

<b>e-Service</b>	Scholarship	
<b>Definition</b>	Using the organization website to apply for scholarship e-Services provided to students who study abroad	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 77.00
	(P1) Placing an Order	Evaluation Result = 12.00
	(P2) Processing an Order	Evaluation Result = 49.00
	(P3) Delivering an Order	Evaluation Result = 16.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-65: Scholarship evaluated by iMGov4E Summary**

In conclusion, the final result based on results using the iMGov4E Model for evaluating scholarship e-Service is 77.00 out of 100.00, and 49.00 out of 60.00. In addition, the analysis shows that P1 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4E/P1/A1/F2, iMGov4E/P1/A2/F2, iMGov4E/P1/A3/F1, and iMGov4E/P1/A3/F2 scored the lowest. Figure 5-30 shows that there is room for improvement using the iMGov4E Model outcomes for better service and greater citizen satisfaction. Full analysis for Scholarship using iMGov4E is shown in Appendix T page 245.





**Figure 5-30: iMGov4E for Scholarship (Way to Go)**

### **Traffic Violations analysis using iMGov4E Model**

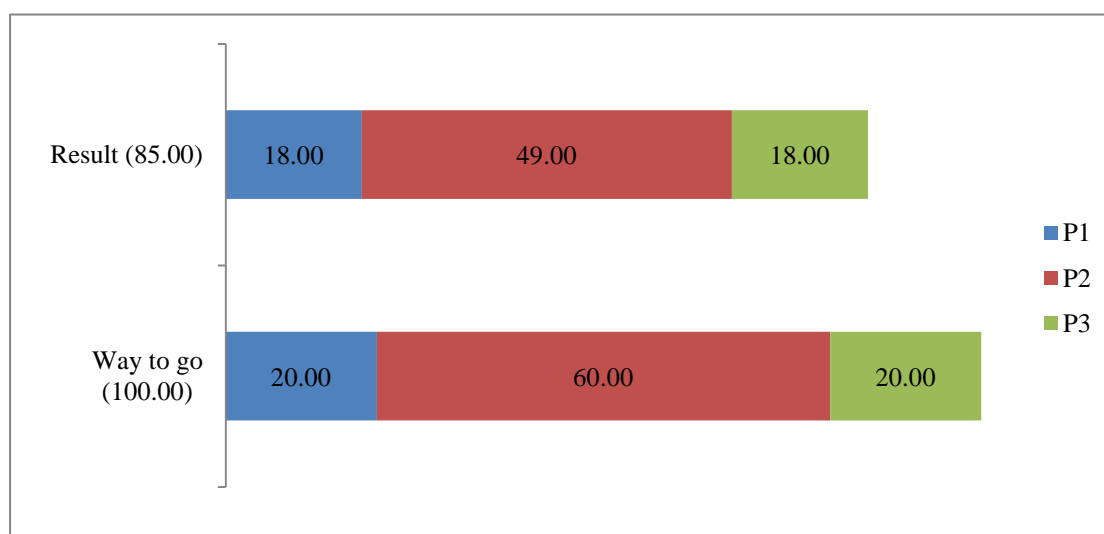
Traffic violations using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, results as a whole model and per phase, and notes. Table 5-65 shows traffic violations iMGov4E summary.

<b>e-Service</b>	Traffic violations	
<b>Definition</b>	Using the organization website to query traffic violations	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 85.00
	(P1) Placing an Order	Evaluation Result = 18.00
	(P2) Processing an Order	Evaluation Result = 49.00
	(P3) Delivering an Order	Evaluation Result = 18.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-66: Traffic Violations evaluated by iMGov4E Summary**

In conclusion, the final result based on results using the iMGov4E Model for evaluating traffic violations e-Service is 85.00 out of 100.00, and 56.00 out of 60.00. Figure 5-31 shows that there is room for improvement using the iMGov4E Model

outcomes for better service and greater citizen satisfaction. Full analysis for Traffic Violations using iMGov4E is shown in Appendix U page 249.



**Figure 5-31: iMGov4E for Traffic Violations (Way to Go)**

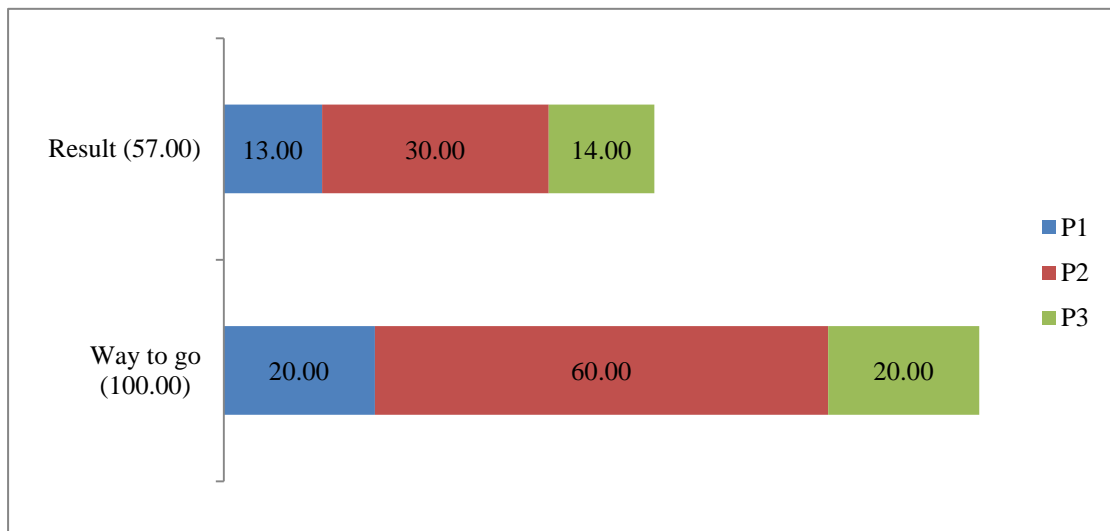
### Loan Request analysis using iMGov4E Model

Loan request using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, results as a whole model and per Phase, and notes. Table 5-67 shows Loan request iMGov4E summary.

<b>e-Service</b>	Loan Request	
<b>Definition</b>	Using the organization website to apply for a loan provided by the government to citizens	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 57.00
	(P1) Placing an Order	Evaluation Result = 13.00
	(P2) Processing an Order	Evaluation Result = 30.00
	(P3) Delivering an Order	Evaluation Result = 14.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-67: Loan Request evaluated by iMGov4E Summary**

In conclusion, the final result based on results using the iMGov4E Model for evaluating the loan request e-Service is 57.00 out of 100.00, and 41.00 out of 60.00. In addition the analysis shows that P1 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4E/P1/A2/F2, iMGov4E/P1/A2/F3, and iMGov4E/P1/A3/F2 scored the lowest. Figure 5-32 shows that there is room for improvement using the iMGov4E Model outcomes for better service and greater citizen satisfaction. Full analysis for Loan Request using iMGov4E is shown in Appendix V page 253.



**Figure 5-32: iMGov4E for Loan Request (Way to Go)**

### **Job Application analysis using iMGov4E Model**

Job application using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, results as a whole model and per Phase, and notes. Table 5-68 shows Job application iMGov4E summary.

<b>e-Service</b>	Job application	
<b>Definition</b>	Using the organization website to help citizens who do not have a job to find one by offering monthly allowance for one year plus training until they find a suitable job	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 85.00
	(P1) Placing an Order	Evaluation Result = 14.00
	(P2) Processing an Order	Evaluation Result = 51.00
	(P3) Delivering an Order	Evaluation Result = 20.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-68: Job Application evaluated by iMGov4E Summary**

In conclusion, the final result based on results using the iMGov4E Model for evaluating Job application e-Service is 85.00 out of 100.00, and 54.00 out of 60.00. In addition, the analysis shows that P1 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4E/P1/A1/F2, iMGov4E/P1/A3/F1 and iMGov4E/P1/A3/F2 scored the lowest. Figure 5-33 shows that there is room for improvement using the iMGov4E Model outcomes for better service and greater citizen satisfaction. Full analysis for Job Application using iMGov4E is shown in Appendix W page 257.



**Figure 5-33: iMGov4E for Job Application (Way to Go)**

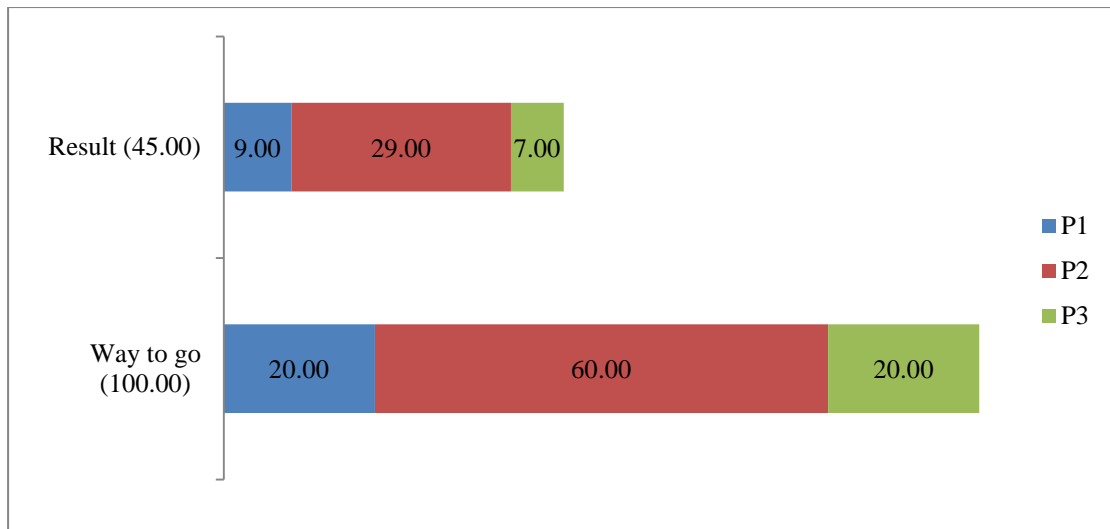
### e-Visa analysis using iMGov4E Model

e-Visa using iMGov4E will be presented in the form of e-Service, definition of e-Service, evaluation model, number of expert responses, results as a whole model and per Phase, and notes. Table 5-69 shows e-Visa iMGov4E summary.

<b>e-Service</b>	e-Visa	
<b>Definition</b>	Using the organization website to apply for family visit visas for first degree relatives	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 45.00
	(P1) Placing an Order	Evaluation Result = 09.00
	(P2) Processing an Order	Evaluation Result = 29.00
	(P3) Delivering an Order	Evaluation Result = 07.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

**Table 5-69: e-Visa evaluated by iMGov4E Summary**

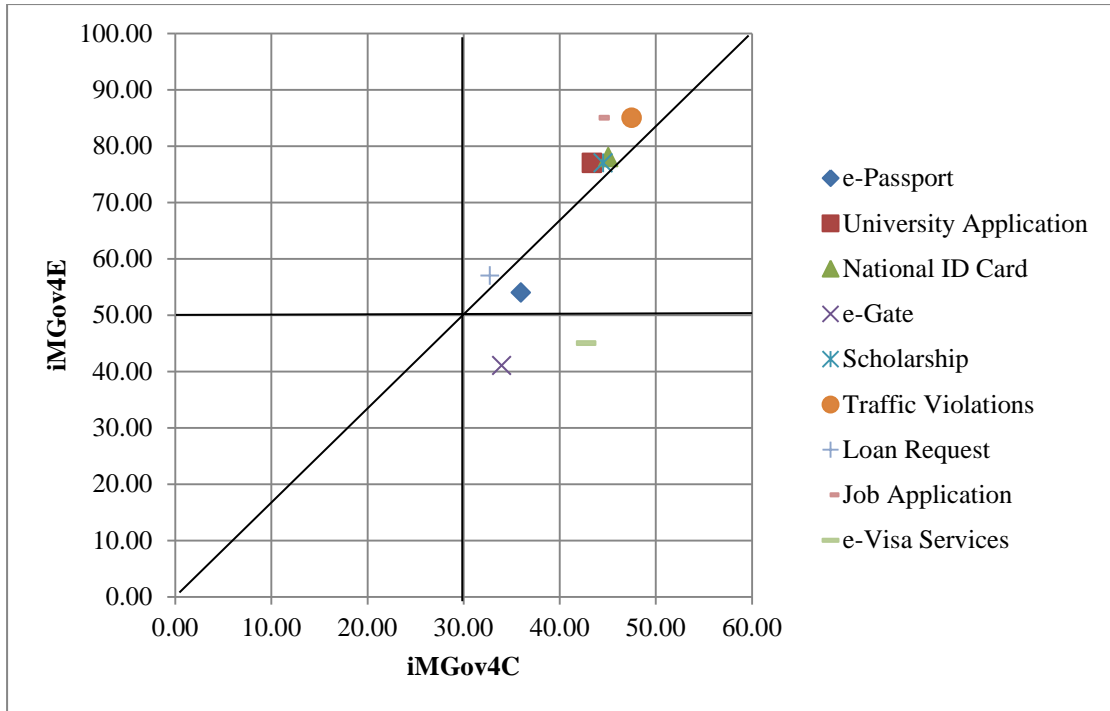
In conclusion, the final result based on results using the iMGov4E Model for evaluating e-Visa e-Service is 45.00 out of 100.00, and 28.00 out of 60.00. In addition, the analysis shows that P3 scored the lowest result, and should be looked at first in order to achieve improvement. Further analysis shows that factors iMGov4E/P1/A1/F1, iMGov4E/P1/A1/F3, iMGov4E/P1/A2/F1, iMGov4E/P1/A2/F2, and iMGov4E/P1/A2/F3 scored the lowest. Figure 5-34 shows that there is room for improvement using the iMGov4E Model outcomes for better service and greater citizen satisfaction. Full analysis for e-Visa using iMGov4E is shown in Appendix X page 261.



**Figure 5-34: iMGov4E for e-Visa (Way to Go)**

## 5.6. Comparison of Results for Citizen and Expert

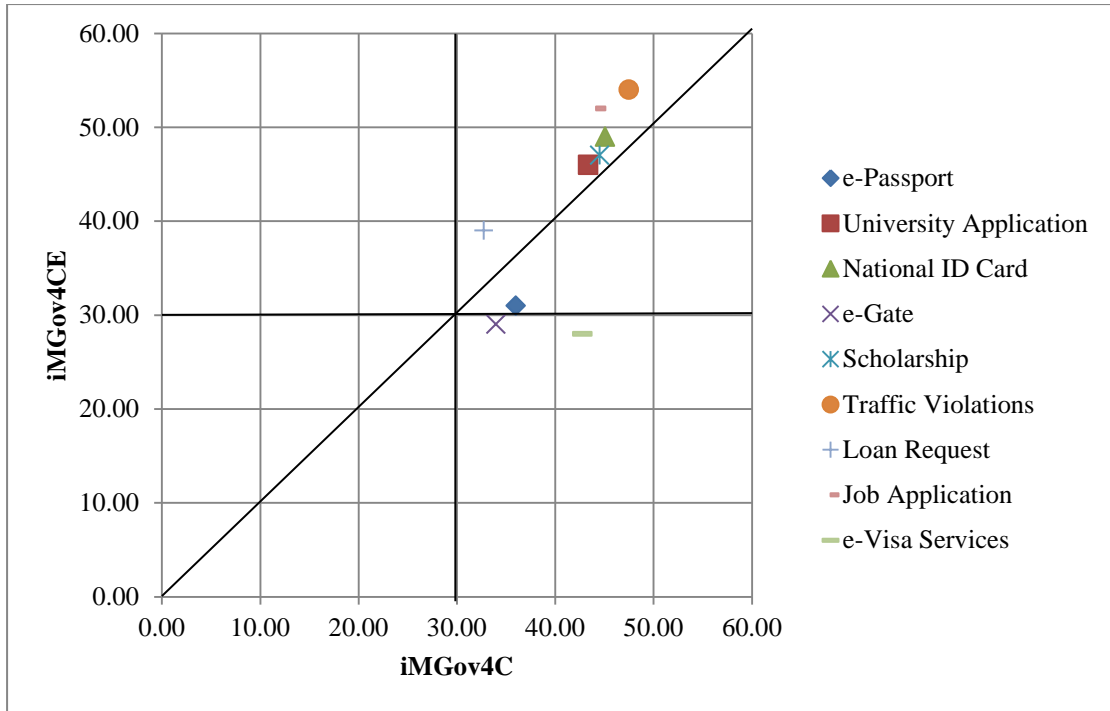
In this section, a comparison of results of iMGov4C Model and iMGov4E Model will be presented. As discussed earlier in this chapter, iMGov4C Model gives each Phase a weight of 20; on the other hand, iMGov4E Model gives more weight to P2 which is out of 60, whereas P1 and P3 are out of 20. As a result, iMGov4E Model will be mapped to iMGov4C Model to give more in depth information, and show how they relate to each other. Figure 5-35 shows the relationship between iMGov4E Model out of 100 and iMGov4C Model out of 60. The analysis is shown based on (X, Y), where X= iMGov4C out of 60, and Y= iMGov4E out of 100; so traffic violations is at the top of the e-Services with scores of 47.50 and 85.00, and e-Gate is at the bottom with scores of 34.00 and 41.00. The results of each e-Service can be examined in more depth for each Phase as stated earlier in this chapter, to identify possible areas for improvement to the e-Service.



**Figure 5-35: Relationship between iMGov4E out of 100 and iMGov4C out of 60**

The diagonal line in Figures 5-35 and 5-36 indicate where the Citizen and Expert agree. Above the diagonal line the Expert gives a higher rating and below the Citizen gives a higher rating. The figures show that the e-Service ratings are near to the diagonal line indicating that the Citizen and Expert rated the e-Services almost the same. The biggest outlier is for the e-Visa service where the Citizen rated it higher (42.78) as opposed to the Expert (28.00).

On the other hand, Figure 5-36 shows the relationship between iMGov4E Model out of 60, and iMGov4C Model out of 60. The analysis shows that based on (X, Y), where X= iMGov4C out of 60 and Y= iMGov4E out of 60 (iMGov4CE), the traffic violations service is at the top of the services with scores of 47.50 and 54.00, and e-Visa is at the bottom with scores of 42.78 and 28.00. The results of each e-Service can be examined in more depth for each Phase, as stated earlier in this chapter in order to identify areas for improvement in the e-Service (See sections 6.2., 6.3., and 6.4. for further discussions).



**Figure 5-36: Relationship between iMGov4E out of 60 (iMGov4CE) and iMGov4C out of 60**

## 5.7. Summary

In summary, e-Passport evaluation was presented in detail to walk through each step of the evaluation model for both iMGov4C Model, and iMGov4E Model. A summary of all evaluated services was presented for both iMGov4C Model and iMGov4E Model in order to show the results of the evaluation model. Finally, a comparison between iMGov4C Model, and iMGov4E Model was presented in order to show how the results are related to each other. Table 5-70 shows the ranked position for the evaluated e-Services. The final column shows the ranked position for the mapping between iMGov4E Model and iMGov4C Model into iMGov4CE that only include the same set of questions.



No.	e-Service	iMGov4C	iMGov4E	iMGov4CE
1	<b>e-Passport</b>	7	7	7
2	<b>University application</b>	5	4	5
3	<b>National ID card</b>	2	3	3
4	<b>e-Gate</b>	8	9	8
5	<b>Scholarship</b>	4	4	4
6	<b>Traffic violations</b>	1	1	1
7	<b>Loan request</b>	9	6	6
8	<b>Job application</b>	3	1	2
9	<b>e-Visa services</b>	6	8	9

**Table 5-70: List of Evaluated e-Services Ranking**

## Chapter 6 Evaluation

### 6.1. Introduction

This chapter presents an overall discussion of the evaluation of the iMGov Model presented earlier in Chapter 3. It also discusses the research results from the surveys, interviews, site visits and pilot study conducted and obtained from the literature.

### 6.2. Comparison with other Models

This research conducted a review of the previous related work which showed that although there are existing evaluation models each had its drawbacks. As a result, the iMGov Model was developed to address the identified shortcomings, and to provide a new way of evaluating e-Government services (e-Services) from the perspective of the citizen.

Table 6-1 shows the areas covered by the evaluation models in the literature.

Literature	Areas covered	iMGov
Eschenfelder <i>et al.</i> (1997)	1. Security 2. Privacy 3. Information content 4. Ease of use	1. Covered 2. Not covered 3. Covered 4. Covered
Huang and Chao (2001)	1. Usability 2. User centred websites	1. Covered 2. Too general to measure
Holliday (2002)	1. Contact information 2. Citizens feedback 3. Search 4. Links	1. Covered 2. Too general to measure 3. Not covered 4. Not covered
Hamner and Al-Qahtani (2009)	1. User centred 2. Sufficient user skills	1. Too general to measure 2. Not covered
Bhatnagar (2004)	1. Cost and benefits for organization	1. Not covered
Sakowicz (2003)	1. e-Services 2. e-Management 3. e-Democracy 4. e-Commerce	1. Not covered 2. Not covered 3. Not covered 4. Not covered
Bertot, Jaeger and McClure (2008)	1. Citizen expectations 2. Barriers 3. Experiences	1. Covered 2. Covered 3. Covered
Cook (2000)	1. Quality of service 2. Confidence 3. Security of information 4. Access the e-Service 5. Expectations	1. Covered 2. Not covered 3. Covered 4. Covered 5. Not covered

Gupta and Jana (2003)	<ol style="list-style-type: none"> <li>1. Citizen satisfaction</li> <li>2. Employee adaptability</li> <li>3. Responsiveness</li> <li>4. Transparency</li> <li>5. Accountability</li> <li>6. Resistance of change</li> <li>7. Return on investment</li> <li>8. Value of information</li> <li>9. System characteristics</li> </ol>	<ol style="list-style-type: none"> <li>1. Too general to measure</li> <li>2. Not covered</li> <li>3. Not covered</li> <li>4. Too general to measure</li> <li>5. Not covered</li> <li>6. Not covered</li> <li>7. Not covered</li> <li>8. Not covered</li> <li>9. Partially covered</li> </ol>
Alshawhi and Alalwany (2009)	<ol style="list-style-type: none"> <li>1. Performance</li> <li>2. Accessibility</li> <li>3. Money saving</li> <li>4. Time Saving</li> <li>5. Openness</li> <li>6. Trust</li> <li>7. Ease of use</li> <li>8. Usefulness</li> </ol>	<ol style="list-style-type: none"> <li>1. Covered</li> <li>2. Covered</li> <li>3. Not covered</li> <li>4. Covered</li> <li>5. Not covered</li> <li>6. Covered</li> <li>7. Covered</li> <li>8. Not covered</li> </ol>
EGOV SAT model (Horan and Abhichandani, 2006)	<ol style="list-style-type: none"> <li>1. Utility</li> <li>2. Reliability</li> <li>3. Efficiency</li> <li>4. Customization</li> <li>5. Flexibility</li> <li>6. Confidence</li> <li>7. Pleasantness</li> <li>8. Frustration</li> <li>9. Satisfaction</li> </ol>	<ol style="list-style-type: none"> <li>1. Not covered</li> <li>2. Covered</li> <li>3. Covered</li> <li>4. Not covered</li> <li>5. Covered</li> <li>6. Not covered</li> <li>7. Not covered</li> <li>8. Not covered</li> <li>9. Partially covered</li> </ol>
COBRA model (Osman <i>et al.</i> , 2014)	<ol style="list-style-type: none"> <li>1. Access time</li> <li>2. Post interaction time</li> <li>3. Authorization requirements</li> <li>4. Information quality</li> <li>5. Service quality</li> <li>6. System quality</li> <li>7. Service support</li> <li>8. Technological support</li> <li>9. Processes support</li> <li>10. Satisfaction</li> </ol>	<ol style="list-style-type: none"> <li>1. Covered</li> <li>2. Covered</li> <li>3. Not covered</li> <li>4. Covered</li> <li>5. Covered</li> <li>6. Not covered</li> <li>7. Covered</li> <li>8. Not covered</li> <li>9. Not covered</li> <li>10. Covered</li> </ol>
Papadomichelaki <i>et al.</i> , 2006)	<ol style="list-style-type: none"> <li>1. Service</li> <li>2. Content</li> <li>3. System</li> <li>4. Organization</li> </ol>	<ol style="list-style-type: none"> <li>1. Partially covered</li> <li>2. Covered</li> <li>3. Partially covered</li> <li>4. Too general to measure</li> </ol>

**Table 6-1: Summary of Areas Covered by e-Government Evaluation Models Vs. iMGov Model**

Table 6-2 shows the areas covered by the iMGov Model.

1.	Accessibility
2.	Availability
3.	Flexibility
4.	Usability
5.	Performance
6.	Time
7.	Website content
8.	System
9.	Support
10.	Organization
11.	Satisfaction
12.	Order experience
13.	Service quality

**Table 6-2: iMGov e-Government Evaluation Model Areas Covered Summary**

It can be seen from the comparison that researchers claimed to be developing an evaluation model where in reality they were recommendations, questions, models, or processes. Some of them claimed to be citizen centred for example Cook (2000); however, they were measuring whether the government thought they were providing service to citizens. Where the iMGov Model differs is that it asks the citizens what they think about the e-Service provided by the government. Another important issue which distinguishes the iMGov Model from others is that it breaks measurement down into phases rather than one global measurement.

### **6.3. Discussion of Results**

This section discusses the evaluation of the iMGov Model presented earlier in Chapter 3. The iMGov Model will provide a method of assessing e-Services in terms of evaluating the whole service cycle from the beginning when the citizen places an order for an e-Service, to the end when the order for that e-Service is delivered, in terms of citizen satisfaction. However, reviews, and citizen feedback can easily become more subjective than objective if not understood and analysed effectively.

In this research, two questionnaires were structured based on the iMGov sub models. The first, the citizen's questionnaire, was structured around the iMGov4C a three phase model consisting of, Placing an Order, Processing an Order, and Delivering an Order. Each Phase has a set of 10 questions that are related to attributes within that Phase: the Placing an Order Phase has a set of questions related to Accessibility, Availability and Flexibility, and one question related to the Phase itself; the Processing an Order Phase has a set of questions related to Usability, Performance

and Time, and one question related to the Phase itself; the Delivering an Order Phase has a set of questions related to satisfaction, order experience and service quality, and one question related to the Phase itself. Each question is related to a specific Factor in the iMGov4C Model; and it was considered inappropriate to provide the citizen with the details of the model.

The second questionnaire, the expert's questionnaire, was structured around the three phases of the iMGov4E Model: Placing an Order, Processing an Order, and Delivering an Order. Phases one and three have a set of 10 questions that are related to attributes within that Phase: the Placing an Order Phase has a set of questions related to Accessibility, Availability and Flexibility, and one question related to the Phase itself; the Delivering an Order Phase has a set of questions related to Satisfaction, Order experience and Service quality, and one question related to the Phase itself; the Processing an Order Phase has a set of 30 questions related to Usability, Performance, Time, Website content, System, Support and Organization, and one question related to the Phase itself. Each question is related to a specific Factor in the iMGov4E Model; and it was considered inappropriate to provide the Expert with the details of the model. Finally, the questionnaire started by giving a brief introduction about the research and demographics questions; this set of questions determined whether the respondent is an Expert or Citizen in order to direct them to the relevant model (iMGov4C, or iMGov4E). The citizen questionnaire consists of 30 questions, and the expert questionnaire consists of 50 questions. Section 4.3 explains how the questionnaires are mapped to iMGov4C Model, and iMGov4E Model.

#### **6.4. Personal Technical Analysis**

The iMGov model should be evaluated against other models as defined in the literature to assess its effectiveness. However, this is not possible because there is a lack of detail of these models (See discussion in section 2.6).

In this thesis the iMGov4E model was completed by self analysis and walk through by the author and the results can be used to evaluate the effectiveness of the iMGov4C model (See Figure 5-35 and Figure 5-36).

## **6.5. Threats to Validity**

According to Gravetter and Forzano (2011):

*“The validity of a research study is the degree to which the study accurately answers the question it was intended to answer”.*

They identify the quality and accuracy of the research as threats to validity which can be classified as external validity, and internal validity.

According to Gravetter and Forzano, a threat to external validity is the limitation of generalizing the research result. In this research, issues related to threats to external validity occurred with participants who ask others for help in using the e-Services due to lack of familiarity with using e-Services. However, the research intended to minimize and simplify the service in order that it can be used by all. Therefore, further investigation needs to be carried out in order to generalize the results. Another issue is that the participants are satisfied even though the e-Service is not fully automated.

Threats to external validity issues are related to the small selection sample used in the research, and lack of evaluation culture from the citizen’s perspective.

## **6.6. Summary**

This chapter discussed the evaluation of the iMGov Model presented earlier in Chapter 3. It presented how the questionnaires are structured and provided an overall discussion of the research results from the surveys, interviews, site visits, and pilot study conducted and obtained from the literature.

## **Chapter 7                      Conclusions and Future Work**

### **7.1.                      Introduction**

The objective of this research was to identify e-Government evaluation models based on previous research and studies, and to evaluate each model by identifying its attributes and factors. It concentrated on evaluating online services provided to citizens by governments. The research then developed a citizen centred model to evaluate e-Government services, and to fill the gap in the literature related to shortcomings of previous e-Government evaluation models from the citizen's perspective.

### **7.2.                      Contribution**

This research contributes to e-Government evaluation models by evaluating and assessing their e-Services from the citizen's perspective. Therefore, finding ways of evaluating these e-Services is crucial in order to achieve better results which will lead to greater citizen satisfaction. This research concentrates on evaluating e-Government services (e-Services) provided to citizens through the development of a new citizen centred model the iMGov Model (Chapter 3).

The research reviewed the literature and real life case studies, as well as conducting surveys and a pilot study. For better understanding of the current situation Durham County Council in the United Kingdom is introduced in Chapter 1, Section 1.3 as a case study, which adopted a new Customer First Strategy that aims to transform the way citizens access its services. Another case study was introduced in Chapter 1, Section 1.3 on a country level in which the Government of Saudi Arabia developed an e-Government strategy map that focuses on the citizen.

The literature review was carried out in Chapter 2 in which existing models were reviewed, and recommendations and suggestions were made for tackling e-Government evaluation. The literature shows that there are existing models for evaluating e-Government but each model evaluates it from different perspectives; some evaluate the e- Government processes, others evaluate e-Government services; and others evaluate a combination of the two. Some e-Government evaluation models

target governments; for example, government organizations' readiness, development, infrastructure, and quality. Other e-Government evaluation models target citizens, with an indirect approach, by putting pressure on government organizations to enhance their online services in order to provide better services to citizens.

The related work showed that evaluation models exist, but each has its drawbacks. As a result, the iMGov Model (Chapter 3) was developed to address the identified shortcomings and to provide a new way of evaluating e-Government services (e-Services) from the citizen's perspective. The iMGov Model was developed to provide a method of assessing e-Services in terms of evaluating the whole service cycle, from the beginning when the citizen places an order for an e-Service, to the end when the order for that specific e-Service is delivered, in terms of citizen satisfaction. The research clearly defined the objectives of the evaluation through the use of the iMGov Model in terms of analysing citizens' feedback in depth. The iMGov Model was introduced based around three concepts: classification, where the model is categorized into, phases, attributes, and factors; calculation (Chapter 3, Section 3.2), where the results of the model are calculated; and visualization. Two sub models were developed based on the iMGov Model. The first model oriented to the citizen, the iMGov4C, was introduced in Chapter 3, Section 3.3 and comprises three phases: Placing an Order, Processing an Order, and Delivering an Order. The second model oriented to the expert, the iMGov4E, was introduced in Chapter 3, Section 3.4 and also comprises the same three phases.

In Chapter 4 the survey is presented, and shows how the research model is translated into a set of questions based on type of citizen, and on each phase. Chapter 4, Section 4.3 explains how the questionnaires are mapped to iMGov4C Model and iMGov4E Model.

In Chapter 5 the results and discussions of the iMGov Model were explained in detail for nine e-Services. Chapter 5, Section 5.4 introduced the iMGov4C results for e-Passport in detail and a collective summary analysis for other evaluated e-Services. Chapter 5, Section 5.5) introduced the iMGov4E results for e-Passport in detail and a collective summary analysis for other evaluated e-Services.



In Chapter 6 an evaluation of the iMGov Model compares the work in this research with related e-Government evaluation models from the citizen's perspective. It includes a discussion on similarities and differences between the evaluation model defined in this research and other evaluation models.

### **7.3. Criteria for Success**

The research aims to investigate e-Government evaluation models from the citizen's perspective. The success of this research was based on the following criteria:

1. *Identify the important factors that contribute to e-Government services. The factors will be identified in the literature, and refined by categorizing the most important ones as they relate to the citizen.* The important factors that contribute to e-Government services evaluation were identified in Chapter 2, and summarized in Chapter 2, Section 2.4, Table 2-18.
2. *Develop a model that enables the evaluation of e-Government services from the citizen's perspective. The important citizen based factors identified in the literature will be combined into an evaluation model.* An evaluation model to assess e-Government services from the point of view of the citizen (iMGov4C), and the expert (iMGov4E) was developed using some of the criteria obtained from the literature survey in Chapter 2. These models were defined in Chapter 3, Section 3.3 for iMGov4C, and Chapter 3, Section 3.4 for iMGov4E. The model is based on Placing an order, Processing an Order, and Delivering an Order.
3. *Apply the model to a number of e-Government services. The model will be applied to a number of e-Government services from Saudi Arabia.* The factors in the iMGov models were mapped on to a questionnaire (Chapter 4) that was applied to nine e-Government services based in the country of Saudi Arabia. The results of these surveys are described, and discussed in Chapter 5.
4. *Assess the effectiveness of the e-Government evaluation model. Once the model has been applied, it will then be evaluated against other models.* The factors in the iMGov models were compared with the literature (Chapter 6, Section 6.2). The iMGov model addressed the main features of the model

identified in the literature, for example Accessibility, and Order experience, but did not address features, for example, number of hyperlinks to the site, and search facilities. This is summarized in Chapter 6, Section 6.2, Table 6-1. Finally, no model in the literature had a structure like the iMGov model where the process of using the service was central to the model.

#### **7.4. Future Work**

This thesis discussed the e-Government evaluation models and developed a model in order to provide an effective e-Government model from the citizen perspective, which currently does not exist. Most researchers are concerned with e-Government evaluation models from the citizen's perspective but in reality they question the government.

Based on iMGov Model, future recommendations are as follows:

1. Develop a mobile system to allow citizens to evaluate e-Government services during the process of applying for the service
2. Add more factors, for example implement suggestions made by citizens for the model where applicable
3. Enhance the factors by making them clear, simple and understandable where applicable to remove any doubt that may occur to citizens when evaluating e-Services

#### **7.5. Summary**

This research identified e-Government evaluation models based on previous research and studies; and evaluated each model by identifying its attributes and factors. It concentrated on evaluating online services provided to citizens by governments. The research then developed a citizen centred model to evaluate e-Government services and to fill the gap of issues related to shortcomings of previous e-Government evaluation models from the citizen's perspective.

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## Appendices

### A. e-Government Evaluation Models Literature Summary

Literature	Outcome	Measures details
Eschenfelder <i>et al.</i> (1997)	Recommendations	<ol style="list-style-type: none"> <li>1. Security</li> <li>2. Privacy</li> <li>3. Freedom of information               <ol style="list-style-type: none"> <li>1.1 Information content</li> <li>1.2 Ease of use</li> </ol> </li> </ol>
Huang and Chao (2001)	Recommendations	<ol style="list-style-type: none"> <li>1. Usability</li> <li>2. User centered websites</li> </ol>
Holliday (2002)	Recommendations	<ol style="list-style-type: none"> <li>1. Usefulness               <ol style="list-style-type: none"> <li>1.1 Contact information</li> <li>1.2 Citizens feedback</li> <li>1.3 Search</li> <li>1.4 Links</li> </ol> </li> </ol>
Hamner and Al-Qahtani (2009)	Recommendations	<ol style="list-style-type: none"> <li>1. User centred</li> <li>2. Sufficient user skills</li> </ol>
Bhatnagar (2004)	Recommendations	<ol style="list-style-type: none"> <li>2. Identify stakeholders</li> <li>3. Identify cost and benefits</li> <li>4. Develop indicators to measure benefits</li> <li>5. Develop survey to measure cost and benefits</li> <li>6. Conduct survey by independent agency</li> <li>7. Analyze the survey data and compile results</li> </ol>
Sakowicz, (2003)	Recommendations	<ol style="list-style-type: none"> <li>1. e-Services</li> <li>2. e-Management</li> <li>3. e-Democracy</li> <li>4. e-Commerce</li> </ol>
Bertot, Jaeger and McClure, (2008)	Questions	<ol style="list-style-type: none"> <li>1. Citizens               <ol style="list-style-type: none"> <li>1.1 Citizens expectations</li> <li>1.2 Issues and barriers citizens encounter</li> <li>1.3 Citizens experiences</li> </ol> </li> <li>2. Government               <ol style="list-style-type: none"> <li>1.1 Primary goal of development and implementation</li> <li>1.2 Citizen needs and expectations included in the design and implementation</li> </ol> </li> <li>3. Citizen identified expectations incorporated into the overall design</li> <li>4. Public librarians               <ol style="list-style-type: none"> <li>1.1 Services and resources support</li> <li>1.2 Citizens engagement in service and resource use</li> <li>1.3 Design issues act as barriers to successful citizen interaction</li> </ol> </li> </ol>



Cook (2000)	Questions	<ol style="list-style-type: none"> <li>1. Citizens thought about e-Services</li> <li>2. Citizens thought about the quality of service</li> <li>3. Citizens confidence in e-Services</li> <li>4. Citizens thought about the security of information</li> <li>5. Citizens like to find these e-Services on state or local government websites</li> <li>6. e-Services would citizens use</li> <li>7. How citizens would like to access the e-Service</li> <li>8. Citizens advantages of using the e-Services</li> <li>9. Citizens disadvantages of using e-Services</li> <li>10. Citizens expectation from using e-Services</li> <li>11. Citizens not to expect from using e-Services</li> <li>12. Citizens worries from using e-Services</li> </ol>
Gupta and Jana (2003)	Model	<ol style="list-style-type: none"> <li>1. Hard Measures <ul style="list-style-type: none"> <li>• Information technology capital investments</li> <li>• Investments justification</li> <li>• Infrastructure investment</li> <li>• Training investment</li> <li>• Information technology expenses</li> <li>• Percentage of down time</li> <li>• CPU usage as percentage</li> <li>• Percent of completed information system project</li> </ul> </li> <li>2. Soft Measures <ul style="list-style-type: none"> <li>• Decision making</li> <li>• Citizen satisfaction</li> <li>• Employee productivity</li> <li>• <u>Catalogue</u> <ul style="list-style-type: none"> <li>• <u>Online Presence</u></li> <li>• <u>Presentation</u></li> <li>• <u>Downloadable forms</u></li> </ul> </li> <li>• <u>Transaction</u> <ul style="list-style-type: none"> <li>• <u>Services and forms are online</u></li> <li>• <u>Database to support online transaction</u></li> </ul> </li> <li>• <u>Vertical Integration</u> <ul style="list-style-type: none"> <li>• <u>Local system linked to higher level system within same functionality</u></li> </ul> </li> <li>• <u>Horizontal Integration</u> <ul style="list-style-type: none"> <li>• <u>System integrated across different functions example portals (Layne and Lee, 2001)</u></li> </ul> </li> <li>• Employee adaptability</li> <li>• Responsiveness</li> <li>• Transparency</li> <li>• Accountability</li> <li>• Resistance of change</li> <li>• Regressive deployment</li> <li>• Radical adaptation</li> </ul> </li> <li>3. Hierarchy of measures <ul style="list-style-type: none"> <li>• Return on investment</li> <li>• Total cost and revenues</li> <li>• Improve in quality of planning and control</li> <li>• Quality of decisions</li> <li>• Value of information</li> <li>• System characteristics</li> </ul> </li> </ol>

Alshawhi and Alalwany (2009)	Model	<ol style="list-style-type: none"> <li>1. Technical Issues <ul style="list-style-type: none"> <li>• Performance</li> <li>• Accessibility</li> </ul> </li> <li>2. Economic Issues <ul style="list-style-type: none"> <li>• Money saving</li> <li>• Time Saving</li> </ul> </li> <li>3. Social Issues <ul style="list-style-type: none"> <li>• Openness</li> <li>• Trust</li> <li>• Ease of use and usefulness</li> </ul> </li> </ol>
EGOV SAT model (Horan and Abhichandani, 2006)	Model	<ol style="list-style-type: none"> <li>1. Performance Dimensions <ul style="list-style-type: none"> <li>• Utility <ul style="list-style-type: none"> <li>• Ease of use</li> <li>• Completeness</li> <li>• Usefulness</li> <li>• Converge</li> </ul> </li> <li>• Reliability <ul style="list-style-type: none"> <li>• Uptime</li> <li>• Accuracy</li> </ul> </li> <li>• Efficiency <ul style="list-style-type: none"> <li>• Ease of access</li> <li>• Presentation</li> </ul> </li> <li>• Customization <ul style="list-style-type: none"> <li>• Customized access</li> <li>• Customized content</li> </ul> </li> <li>• Flexibility <ul style="list-style-type: none"> <li>• Flexible planning</li> <li>• Dynamic content</li> </ul> </li> </ul> </li> <li>2. Emotional Dimensions <ul style="list-style-type: none"> <li>• Confidence</li> <li>• Pleasantness</li> <li>• Frustration</li> <li>• Satisfaction</li> </ul> </li> </ol>
COBRA model (Osman <i>et al.</i> , 2014)	Model	<ol style="list-style-type: none"> <li>1. Cost <ul style="list-style-type: none"> <li>• Access time</li> <li>• Post interaction time</li> <li>• Authorization requirements</li> </ul> </li> <li>2. Benefit <ul style="list-style-type: none"> <li>• Information quality</li> <li>• Service quality</li> <li>• System quality</li> </ul> </li> <li>3. Risk</li> <li>4. Opportunity <ul style="list-style-type: none"> <li>• Service support</li> <li>• Technological support</li> <li>• Processes support</li> </ul> </li> <li>5. Satisfaction</li> </ol>

Papadomichelaki <i>et al.</i> (2006)	Model	<ol style="list-style-type: none"> <li>1. Service <ul style="list-style-type: none"> <li>• Accuracy</li> <li>• Time</li> <li>• Interaction</li> <li>• Personalization</li> <li>• Facilities</li> </ul> </li> <li>2. Content <ul style="list-style-type: none"> <li>• Information <ul style="list-style-type: none"> <li>• Accuracy</li> <li>• Correctness</li> <li>• Reliability</li> <li>• Timeliness</li> <li>• Completeness</li> <li>• Relevancy</li> <li>• Ease to understand</li> <li>• Number of hyperlinks the site</li> </ul> </li> <li>• Presentation <ul style="list-style-type: none"> <li>• Structure</li> <li>• Design</li> <li>• Appearance</li> <li>• Search facilities</li> <li>• Easy to navigate</li> <li>• Easy to remember link</li> </ul> </li> </ul> </li> <li>3. System <ul style="list-style-type: none"> <li>• Availability</li> <li>• Accessibility</li> <li>• System integrity</li> <li>• Performance</li> <li>• Reliability</li> <li>• Interoperability</li> <li>• Regulatory</li> <li>• Security <ul style="list-style-type: none"> <li>• Confidentiality</li> <li>• Encrypting messages</li> <li>• Access control</li> </ul> </li> </ul> </li> <li>4. Organization <ul style="list-style-type: none"> <li>• Leadership</li> <li>• Strategy and planning</li> <li>• Human resources</li> <li>• Analysis and knowledge management</li> <li>• Partnerships and resources</li> <li>• Process management and customer focus</li> </ul> </li> </ol>
Gartner model (Baum and Di Maio, 2000)	Process	<ol style="list-style-type: none"> <li>1. Web presence <ul style="list-style-type: none"> <li>• Provide basic information</li> </ul> </li> <li>2. Interaction <ul style="list-style-type: none"> <li>• Use email to communicate</li> <li>• Provide downloaded documents</li> </ul> </li> <li>3. Transaction <ul style="list-style-type: none"> <li>• Provide full service online</li> </ul> </li> <li>4. Transformation <ol style="list-style-type: none"> <li>A. Provide integrated services</li> <li>• Provide personalized services</li> </ol> </li> </ol>

Hiller and Belanger (2001)	Process	<ol style="list-style-type: none"> <li>1. Emerging web presence <ul style="list-style-type: none"> <li>• Provide basic information</li> </ul> </li> <li>2. Enhanced web presence <ul style="list-style-type: none"> <li>• Provide more dynamic information</li> <li>• Provide updated information</li> </ul> </li> <li>3. Interactive web presence <ul style="list-style-type: none"> <li>• Use email to communicate</li> <li>• Provide downloaded documents</li> </ul> </li> <li>4. Transactional web presence <ul style="list-style-type: none"> <li>• Provide full service online to citizens</li> </ul> </li> <li>5. Fully integrated web presence <ul style="list-style-type: none"> <li>• Provide integrated and services</li> <li>• Provide personalized services</li> </ul> </li> </ol>
United Nations and American Society for Public Administration (2001)	Process	<ol style="list-style-type: none"> <li>1. Emerging <ul style="list-style-type: none"> <li>• Website exist</li> </ul> </li> <li>2. Enhanced <ul style="list-style-type: none"> <li>• Website provide more dynamic information</li> <li>• Website provide updated information</li> </ul> </li> <li>3. Interactive <ul style="list-style-type: none"> <li>• Citizens can communicate, and interact through the website</li> </ul> </li> <li>4. Transactional <ul style="list-style-type: none"> <li>• Citizens can pay for services online</li> <li>• Citizens interact through the website</li> </ul> </li> <li>5. Seamless <ul style="list-style-type: none"> <li>• Website provide full integration of across the organization</li> </ul> </li> </ol>
Deloitte and Touche (2001)	Process	<ol style="list-style-type: none"> <li>1. Information publishing <ul style="list-style-type: none"> <li>• Provide citizens with information access</li> </ul> </li> <li>2. Two way transaction <ul style="list-style-type: none"> <li>• Interaction with citizens</li> </ul> </li> <li>3. Portals <ul style="list-style-type: none"> <li>• Single point of contact</li> </ul> </li> <li>4. Personalization <ul style="list-style-type: none"> <li>• Enable citizens to personalize the portals based on their needs</li> </ul> </li> <li>5. Clustering of common services <ul style="list-style-type: none"> <li>• Provide enhanced services</li> <li>• Reduce the operational processes</li> </ul> </li> <li>6. Full integration <ul style="list-style-type: none"> <li>• Provide personalized</li> <li>• Fully integrated</li> <li>• Single point of contact</li> </ul> </li> </ol>
Layne and Lee (2001)	Process	<ol style="list-style-type: none"> <li>1. Catalogue <ul style="list-style-type: none"> <li>• Website includes basic, and static information</li> </ul> </li> <li>2. Transaction <ul style="list-style-type: none"> <li>• Website includes simple online transactions</li> </ul> </li> <li>3. Vertical integration <ul style="list-style-type: none"> <li>• Website integrated with other e-Government services</li> </ul> </li> <li>4. Horizontal integration <ul style="list-style-type: none"> <li>• Website integrated with other e-Government services in separate systems</li> </ul> </li> </ol>

Moon (2002)	Process	<ol style="list-style-type: none"> <li>1. Simple information <ul style="list-style-type: none"> <li>• Website provide one way communication</li> </ul> </li> <li>2. Request and response <ul style="list-style-type: none"> <li>• Website provide two way communication</li> </ul> </li> <li>3. Service and financial transaction <ul style="list-style-type: none"> <li>• Website provide service and financial transaction online</li> </ul> </li> <li>4. Vertical and horizontal integration <ul style="list-style-type: none"> <li>• Website integrate with other e-Government services, and with other e-Government services in separate systems</li> </ul> </li> <li>5. Political participation <ul style="list-style-type: none"> <li>• Website uses services such as online voting</li> </ul> </li> </ol>
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## B. List of Evaluated e-Services

No.	e-Service	Organization	Website	Country
1	<b>e-Passport</b>	Ministry of Interior	www.moi.gov.sa	Saudi Arabia
2	<b>University application</b>	Ministry of Education	www.moe.gov.sa	
3	<b>National ID card</b>	Ministry of Interior	www.moi.gov.sa	
4	<b>e-Gate</b>	Ministry of Interior	www.moi.gov.sa	
5	<b>Scholarship</b>	Ministry of Education	www.moe.gov.sa	
6	<b>Traffic violations</b>	Ministry of Interior	www.moi.gov.sa	
7	<b>Loan request</b>	Ministry of Housing	www.housing.gov.sa	
8	<b>Job application</b>	Ministry of Labour	www.mol.gov.sa	
9	<b>e-Visa services</b>	Ministry of Foreign Affairs	www.mofa.gov.sa	

## C. iMGov4C Questionnaire

No.	Question	2	1	0
0	What is your main access to the Internet?	-	-	-
0	Please specify one specific online e-Government service you have used or applied before.	-	-	-
0	Briefly describe the online e-Government service you have specified in the previous question.	-	-	-
0	Which country does the specified online e-Government belong to?	-	-	-
0	Have you used or applied for online e-Government services before?	-	-	-
1	Are you satisfied with placing your online order?	Satisfied=2	Neutral=1	Unsatisfied=0
2	Is the e-Government service accessible?	Yes=2		No=0
3	Can the e-Government service be reached by different channels? (online, in person, by phone, or at a self service kiosk)	Yes=2		No=0
4	Are there difficulties in placing an order?	Yes=2		No=0
5	Is the e-Government service available (at any time)?	Yes=2		No=0
6	Experiencing downtime time including maintenance while placing an order	Yes=2		No=0
7	Are there difficulties in reaching e-Service	Yes=2		No=0
8	Is the e-Government service flexible?	Yes=2		No=0
9	Does the e-Government service have different payment methods?	Yes=2		No=0
10	Do you prefer to achieve your objective online, or in person?	Online=2		In Person=0
11	Are you satisfied with processing your online order?	Satisfied=2	Neutral=1	Unsatisfied=0
12	Is the e-Government service website easy to use?	Yes=2		No=0
13	Is the e-Government service website easy to understand?	Yes=2		No=0
14	Is the e-Government service website easy to navigate?	Yes=2		No=0
15	How would you rate the e-Government service performance?	Good=2	Neutral=1	Bad=0
16	Is the performance of the e-Government service fast or slow?	Fast=2	Neutral=1	Slow=0
17	Does the technical support increase the performance of the e-Service?	Yes=2		No=0
18	Did the use of the e-Government service save you time?	Yes=2		No=0
19	How satisfied are you with the time taken to process your order?	Satisfied=2	Neutral=1	Unsatisfied=0
20	Are you satisfied with the processing time?	Yes=2		No=0
21	Are you satisfied with delivering your online order?	Satisfied=2	Neutral=1	Unsatisfied=0
22	Are you satisfied with the online e-Government service	Yes=2		No=0
23	Are you satisfied with the organization's response	Satisfied=2	Neutral=1	Unsatisfied=0
24	How likely would you be to use the online e-Government service	Likely=2	Neutral=1	Not Likely=0
25	How would you rate your online order experience overall?	Good=2	Neutral=1	Bad=0
26	Using online e-Government service saved you time	Yes=2		No=0

<b>No.</b>	<b>Question</b>	<b>2</b>	<b>1</b>	<b>0</b>
27	Using online e-Government service saved you effort	Yes=2		No=0
28	Does the e-Government service seem to be trusted?	Yes=2		No=0
29	Does the e-Government service seem to be secure?	Yes=2		No=0
30	Does the e-Government service offer a clear explanation, and guidance for its use?	Yes=2		No=0



## D. iMGov4E Questionnaire

No.	Question	2	1	0
0	What is your main access to the Internet?	-	-	-
0	Please specify one specific online e-Government service you have used or applied before.	-	-	-
0	Briefly describe the online e-Government service you have specified in the previous question.	-	-	-
0	Which country does the specified online e-Government belong to?	-	-	-
0	Have you used or applied for online e-Government services before?	-	-	-
1	How satisfied is the citizen with placing an online order?	Satisfied=2	Neutral=1	Unsatisfied=0
2	Is the e-Government service accessible?	Yes=2		No=0
3	Can the e-Government service be reached by different channels? (online, in person, by phone, or self service kiosk)	Yes=2		No=0
4	Are there difficulties in placing an online order?	Yes=2		No=0
5	Is the e-Government service available at any time?	Yes=2		No=0
6	Are there difficulties in reaching the e-Service?	Yes=2		No=0
7	Experiencing downtime (including maintenance) while placing an order	Yes=2		No=0
8	Is the e-Government service flexible?	Yes=2		No=0
9	Does the e-Government service have different payment methods?	Yes=2		No=0
10	Does the citizen prefer to achieve their objective online or in person?	Online=2		In Person=0
11	How satisfied is the citizen with processing an online order?	Satisfied=2	Neutral=1	Unsatisfied=0
12	Is the e-Government service website easy to use?	Yes=2		No=0
13	Is the e-Government service website easy to understand?	Yes=2		No=0
14	Is the e-Government service website easy to navigate?	Yes=2		No=0
15	Does the e-Government service consider citizens with special needs?	Yes=2		No=0
16	How would you rate the e-Government service performance?	Good=2	Neutral=1	Bad=0
17	Is the performance of the e-Government service fast or slow?	Fast=2	Neutral=1	Slow=0
18	Does the technical support increase the performance of the e-Service	Yes=2		No=0
19	Does the e-Service use specific applications that affect the performance of the request in a positive way?	Yes=2		No=0
20	Did the use of the e-Government service save the citizen time?	Yes=2		No=0
21	Was the citizen satisfied with the time taken to process their order?	Yes=2		No=0
22	Was the citizen satisfied with the processing time?	Yes=2		No=0
23	Is all the information correct, and complete?	Yes=2		No=0
24	Is all the information consistent?	Yes=2		No=0
25	Is all the information relevant?	Yes=2		No=0

No.	Question	2	1	0
26	Is all the information easy to find?	Yes=2		No=0
27	How would you rate the website structure?	Good=2	Neutral=1	Bad=0
28	How would you rate the website design?	Good=2	Neutral=1	Bad=0
29	How would you rate the website navigation?	Good=2	Neutral=1	Bad=0
30	Does the e-Service integrate with other e-Services in order to enhance the service?	Yes=2		No=0
31	Does the integration affect the process of specific e-Service in terms of speed?	Yes=2		No=0
32	Does the website experience downtime including maintenance time?	Yes=2		No=0
33	How would you rate the performance result taken by citizens in terms of system analysis?	Good=2	Neutral=1	Bad=0
34	Does the website experience high traffic that slows down the system?	Yes=2		No=0
35	Is the transaction of the specific e-Service smooth?	Yes=2		No=0
36	Is there a help desk to support citizens?	Yes=2		No=0
37	How would you rate the help desk staff's knowledge?	Good=2	Neutral=1	Bad=0
38	Is the e-Government service well planned?	Yes=2		No=0
39	Does the e-Government service have a future plan?	Yes=2		No=0
40	Does the e-Government organization have strategy for the service in place?	Yes=2		No=0
41	How satisfied is the citizen with the delivery of an online order?	Satisfied=2	Neutral=1	Unsatisfied=0
42	How satisfied is the citizen with using online e-Government service?	Satisfied=2	Neutral=1	Unsatisfied=0
43	How satisfied is the citizen with the organization's response?	Satisfied=2	Neutral=1	Unsatisfied=0
44	How likely would the citizen be to use the online e-Government service?	Likely=2	Neutral=1	Not Likely=0
45	How would the citizen rate the online order experience overall?	Good=2	Neutral=1	Bad=0
46	Did using online e-Government service save the citizen time?	Yes=2		No=0
47	Did using the online e-Government service save the citizen effort?	Yes=2		No=0
48	Does the e-Government service seem to be trusted?	Yes=2		No=0
49	Does the e-Government service seem to be secure?	Yes=2		No=0
50	Does the e-Government service offer clear explanation and guidance for using the e-Service?	Yes=2		No=0

## E. Collective Summary of all Evaluated e-Services Using iMGov4C

No.	e-Service	# of Citizens Responses	AVG			STD		
			(P1)	(P2)	(P3)	(P1)	(P2)	(P3)
1	e-Passport	6	36.00			20.59		
			11.50	12.17	12.33	6.80	7.03	7.01
2	University application	8	43.38			7.19		
			10.88	14.88	17.63	2.75	3.91	1.92
3	National ID card	11	45.09			8.65		
			12.27	15.73	17.09	3.72	3.10	3.65
4	e-Gate	6	34.00			16.79		
			9.67	10.17	14.17	4.32	5.74	7.70
5	Scholarship	15	44.53			8.26		
			11.87	16	16.67	8.26	3.16	4.56
6	Traffic violations	4	47.50			4.36		
			16.75	14.50	16.25	1.89	2.65	2.99
7	Loan request	4	32.75			8.18		
			10.75	10.50	11.50	4.27	2.38	2.08
8	Job application	7	44.17			11.55		
			10.83	15.67	17.67	3.13	4.55	4.80
9	e-Visa services	9	42.78			12.18		
			14.33	13.56	14.89	4.12	4.39	4.62
		<b>70</b>						

## F. Full analysis for e-Passport using iMGov4C

- e-Passport iMGov4C Summary**

<b>e-Service</b>	e-Passport		
<b>Definition</b>	Using the government website to apply for a passport		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	6		
<b>Results</b>	(P1) (P2) (P3)	AVG= 36.00	STD= 20.59
	(P1) Placing an Order	AVG= 11.50	STD= 06.80
	(P2) Processing an Order	AVG= 12.17	STD= 07.03
	(P3) Delivering an Order	AVG= 12.33	STD= 07.61
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (e-Passport)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	3	1	2
C/P1/A1/F1	5	0	1
C/P1/A1/F2	2	0	4
C/P1/A1/F3	3	0	3
C/P1/A2/F1	4	0	2
C/P1/A2/F2	3	0	3
C/P1/A2/F3	4	0	2
C/P1/A3/F1	4	0	2
C/P1/A3/F2	3	0	3
C/P1/A3/F3	3	0	3

- Total Number of Citizens' Responses for Phase 1 (e-Passport)**

	Results	Out of	Notes
# of R/P	6	6	
# of 2 (Positive)/P	34	60	10 Factors * 6 Responses
# of 1 (Neutral)/P	1	6	1 Factor * 6 Responses
# of 0 (Negative)/P	25	60	10 Factors * 6 Responses

- **Number of Citizens' Responses per Factor for Phase 2 (e-Passport)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	2	2	2
C/P2/A1/F1	4	0	2
C/P2/A1/F2	3	0	3
C/P2/A1/F3	4	0	2
C/P2/A2/F1	2	4	0
C/P2/A2/F2	1	4	1
C/P2/A2/F3	5	0	1
C/P2/A3/F1	4	0	2
C/P2/A3/F2	2	3	1
C/P2/A3/F3	3	0	3

- **Total Number of Citizens' Responses for Phase 2 (e-Passport)**

	Results	Out of
# of R/P	6	6
# of 2 (Positive)/P	30	60
# of 1 (Neutral)/P	13	24
# of 0 (Negative)/P	17	60

- **Number of Citizens Responses per Factor for Phase 3 (e-Passport)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	3	1	2
C/P3/A1/F1	4	0	2
C/P3/A1/F2	4	0	2
C/P3/A1/F3	3	2	1
C/P3/A2/F1	2	3	1
C/P3/A2/F2	4	0	2
C/P3/A2/F3	4	0	2
C/P3/A3/F1	3	0	3
C/P3/A3/F2	3	0	3
C/P3/A3/F3	4	0	2

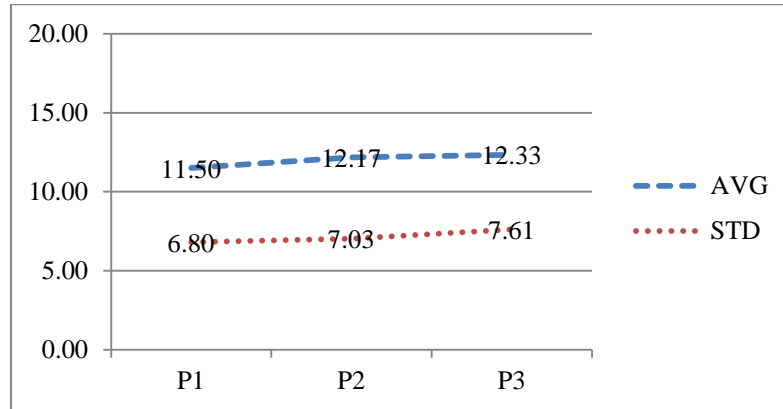
- **Total Number of Citizens' Responses for Phase 3 (e-Passport)**

	Results	Out of
# of R/P	6	6
# of 2 (Positive)/P	34	60
# of 1 (Neutral)/P	6	24
# of 0 (Negative)/P	20	60

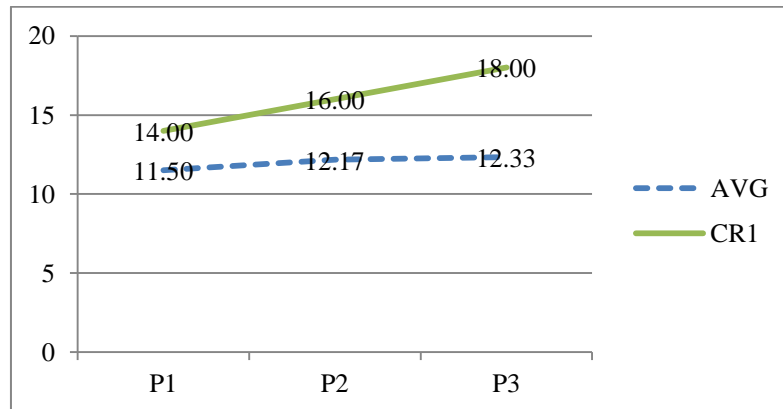
- **Total Number of Citizens' Responses for e-Passport**

	Results	Out of
# of R/C	6	6
# of 2 (Positive)/C	98	180
# of 1 (Neutral)/C	20	54
# of 0 (Negative)/C	62	180

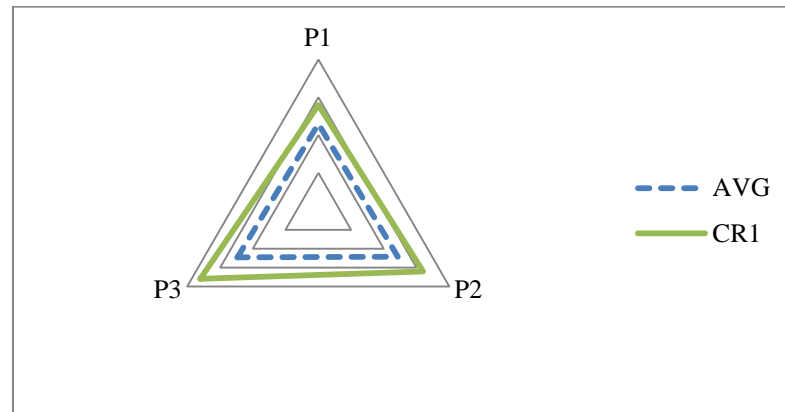
- **AVG, and STD for Three Phases P1, P2, and P3 (e-Passport)**



- **CR1 vs. AVG e-Passport Emotion Line (EL)**



- **CR1 vs. AVG e-Passport using Radar Plots**



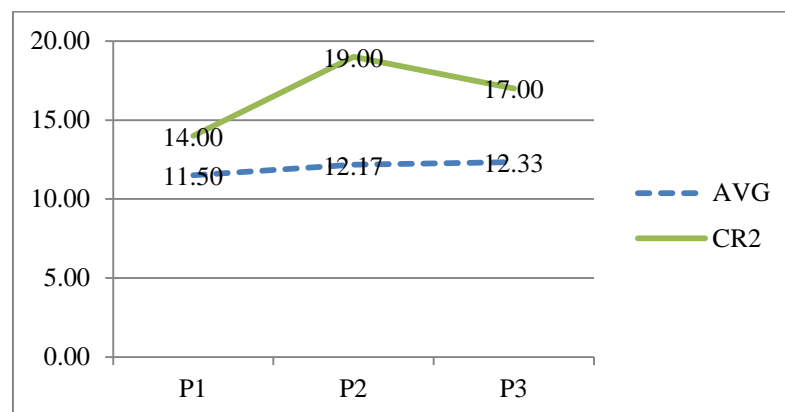
- **CR1 vs. AVG e-Passport per P1, P2, and P3**

CR1	AVG
48.00	36.00

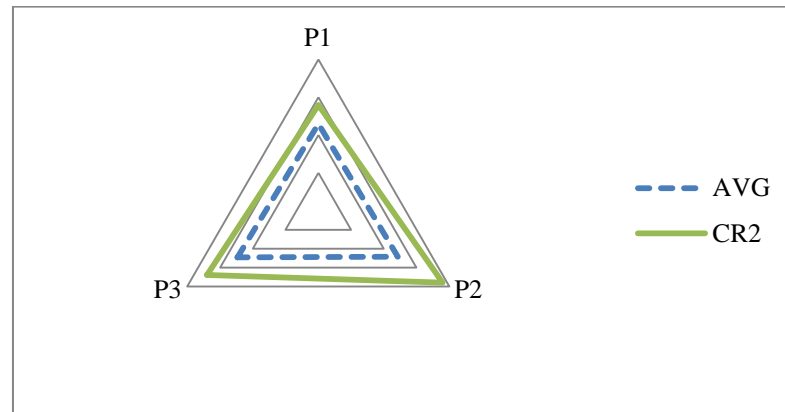
- **CR1 vs. AVG e-Passport per Phase (P)**

P	CR1	AVG
P1	14.00	11.50
P2	16.00	12.17
P3	18.00	12.33

- **CR2 vs. AVG e-Passport Emotion Line (EL)**



- **CR2 vs. AVG e-Passport using Radar Plots**



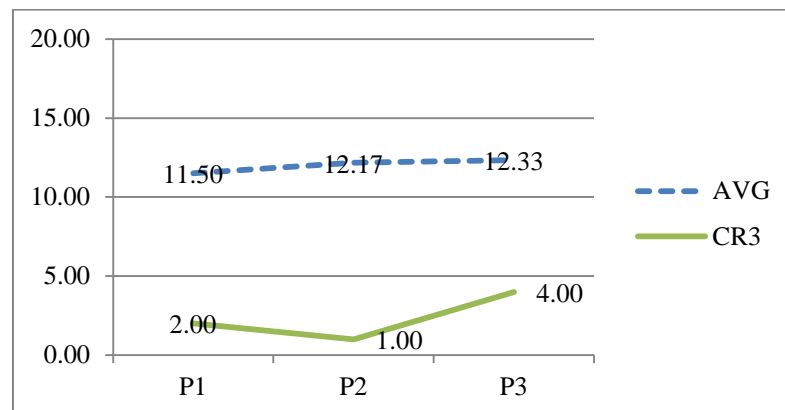
- **CR2 vs. AVG e-Passport per P1, P2, and P3**

CR2	AVG
50.00	36.00

- **CR2 vs. AVG e-Passport per Phase (P)**

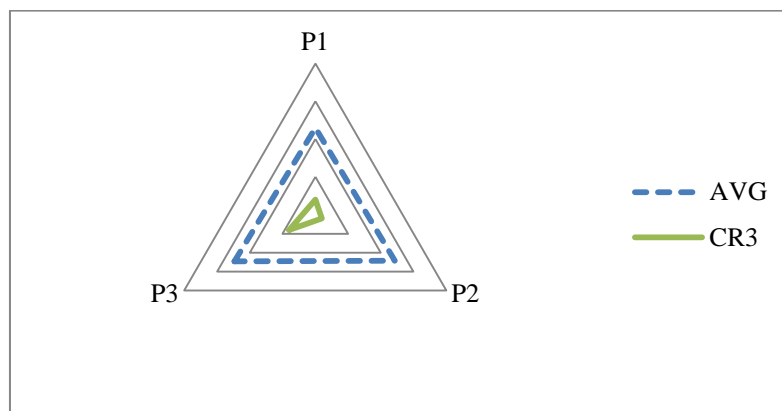
CR2 vs. AVG e-Passport per Phase (P)		
P	CR2	AVG
P1	14.00	11.50
P2	19.00	12.17
P3	17.00	12.33

- **CR3 vs. AVG e-Passport Emotion Line (EL)**





- **CR3 vs. AVG e-Passport using Radar Plots**



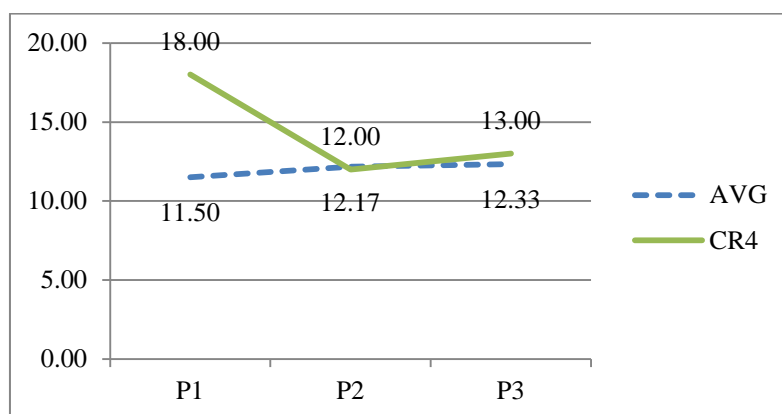
- **CR3 vs. AVG e-Passport per P1, P2, and P3**

CR3	AVG
7.00	36.00

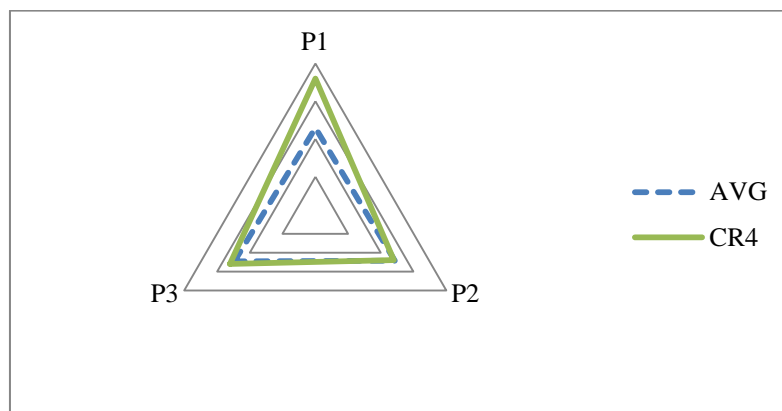
- **CR3 vs. AVG e-Passport per Phase (P)**

P	CR3	AVG
P1	2.00	11.50
P2	1.00	12.17
P3	4.00	12.33

- **CR4 vs. AVG e-Passport Emotion Line (EL)**



- **CR4 vs. AVG e-Passport using Radar Plots**



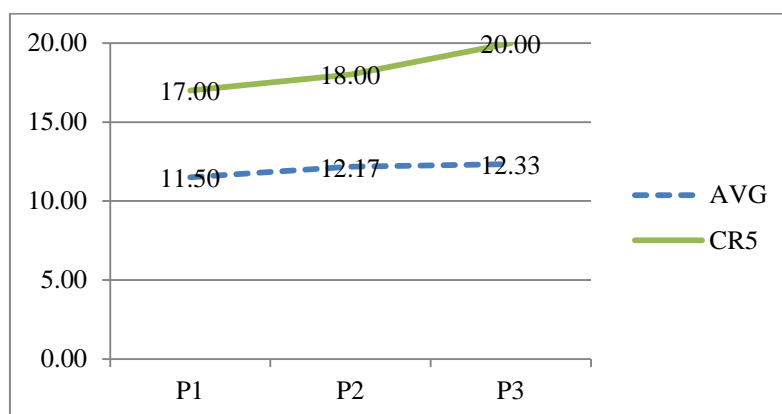
- **CR4 vs. AVG e-Passport per P1, P2, and P3**

CR4	AVG
43.00	36.00

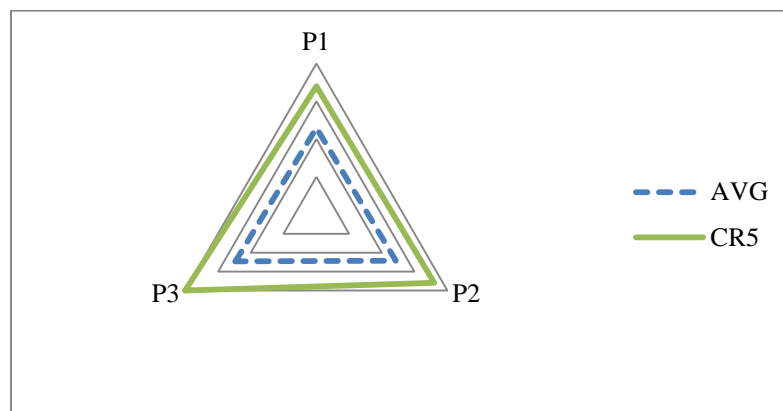
- **CR4 vs. AVG e-Passport per Phase (P)**

P	CR4	AVG
P1	18.00	11.50
P2	12.00	12.17
P3	13.00	12.33

- **CR5 vs. AVG e-Passport Emotion Line (EL)**



- **CR5 vs. AVG e-Passport using Radar Plots**



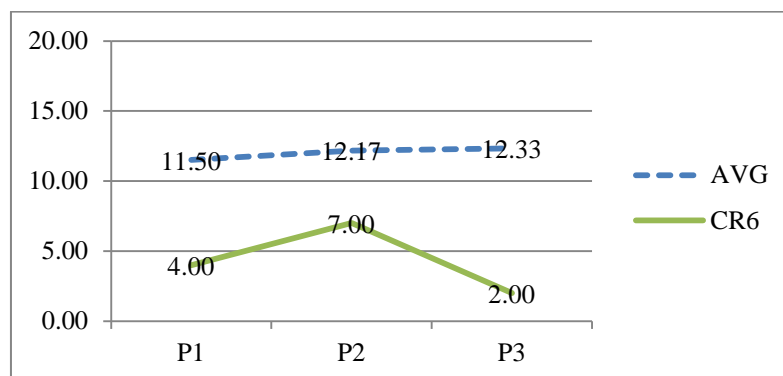
- **CR5 vs. AVG e-Passport per P1, P2, and P3**

CR5	AVG
55.00	36.00

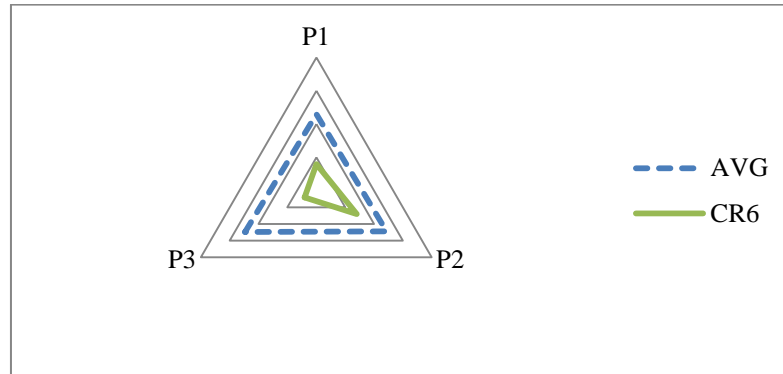
- **CR5 vs. AVG e-Passport per Phase (P)**

CR5 vs. AVG e-Passport per Phase (P)		
P	CR5	AVG
P1	17.00	11.50
P2	18.00	12.17
P3	20.00	12.33

- **CR6 vs. AVG e-Passport Emotion Line (EL)**



- **CR6 vs. AVG e-Passport using Radar Plots**



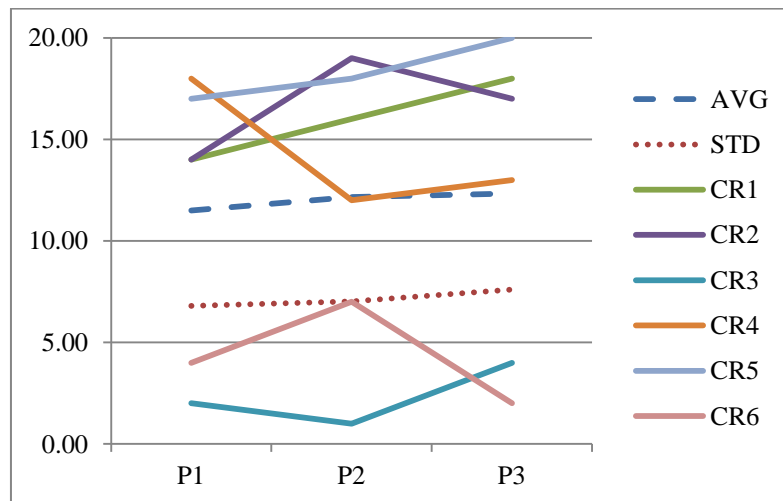
- **CR6 vs. AVG e-Passport per P1, P2, and P3**

CR6	AVG
13.00	36.00

- **CR6 vs. AVG e-Passport per Phase (P)**

P	CR6	AVG
P1	4.00	11.50
P2	7.00	12.17
P3	2.00	12.33

- **CR vs. AVG vs. STD e-Passport Emotion Line (EL)**



## G. Full analysis for University application using iMGov4C

- University Application iMGov4C Summary**

<b>e-Service</b>	University application		
<b>Definition</b>	Using the university website to apply for admission		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	8		
<b>Results</b>	(P1) (P2) (P3)	AVG= 43.38	STD= 07.19
	(P1) Placing an Order	AVG= 10.88	STD= 02.75
	(P2) Processing an Order	AVG= 14.88	STD= 03.91
	(P3) Delivering an Order	AVG= 17.63	STD= 01.92
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (University application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	5	3	0
C/P1/A1/F1	8	0	0
C/P1/A1/F2	0	0	8
C/P1/A1/F3	3	0	5
C/P1/A2/F1	8	0	0
C/P1/A2/F2	6	0	2
C/P1/A2/F3	6	0	2
C/P1/A3/F1	0	0	8
C/P1/A3/F2	0	0	8
C/P1/A3/F3	6	0	2

- Total number of Citizens' Responses per Phase 1 (P1) (University application)**

	Results	Out of	Notes
# of R/P	8	8	
# of 2 (Positive)/P	42	80	10 Factors * 8 Responses
# of 1 (Neutral)/P	3	8	1 Factor * 8 Responses
# of 0 (Negative)/P	35	80	10 Factors * 8 Responses

- **Number of Citizens' Responses per Factor for Phase 2 (P2) (University application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	4	4	0
C/P2/A1/F1	6	0	2
C/P2/A1/F2	6	0	2
C/P2/A1/F3	5	0	3
C/P2/A2/F1	5	3	0
C/P2/A2/F2	3	3	2
C/P2/A2/F3	6	0	2
C/P2/A3/F1	6	0	2
C/P2/A3/F2	3	5	0
C/P2/A3/F3	8	0	0

- **Total number of Citizens' Responses for Phase 2 (P2) (University application)**

	Results	Out of
# of R/P	8	8
# of 2 (Positive)/P	52	80
# of 1 (Neutral)/P	15	32
# of 0 (Negative)/P	13	80

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (University application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	7	1	0
C/P3/A1/F1	8	0	0
C/P3/A1/F2	8	0	0
C/P3/A1/F3	5	2	1
C/P3/A2/F1	6	2	0
C/P3/A2/F2	8	0	0
C/P3/A2/F3	7	0	1
C/P3/A3/F1	7	0	1
C/P3/A3/F2	8	0	0
C/P3/A3/F3	4	0	4

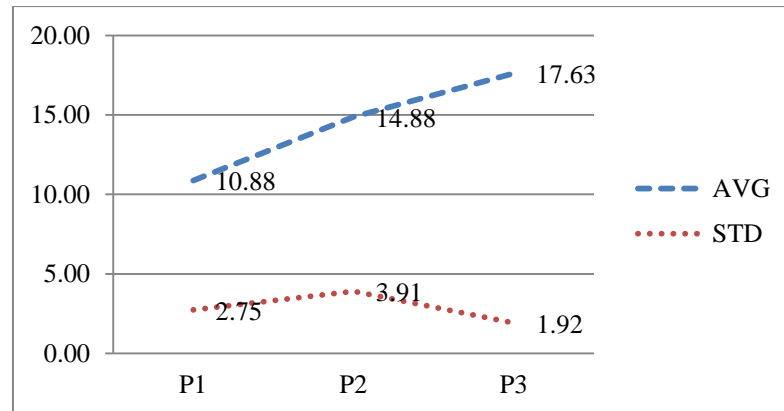
- **Total number of Citizens' Responses for Phase 3 (P3) (University application)**

	Results	Out of
# of R/P	8	8
# of 2 (Positive)/P	68	80
# of 1 (Neutral)/P	5	32
# of 0 (Negative)/P	7	80

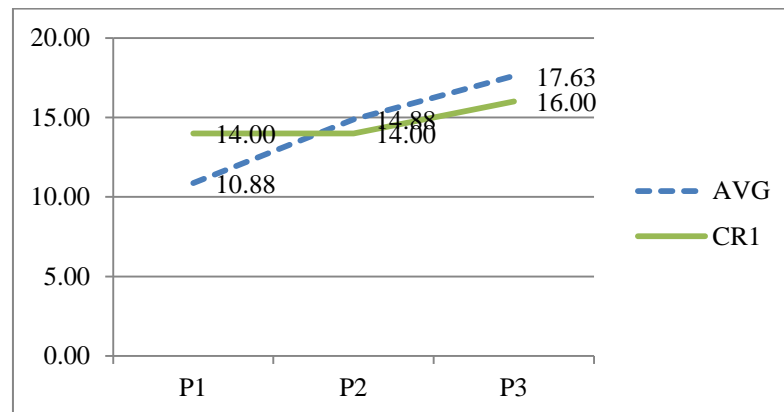
- **Total number of Citizens' Responses for (University application)**

	Results	Out of
# of R/C	8	8
# of 2 (Positive)/C	162	240
# of 1 (Neutral)/C	23	72
# of 0 (Negative)/C	55	240

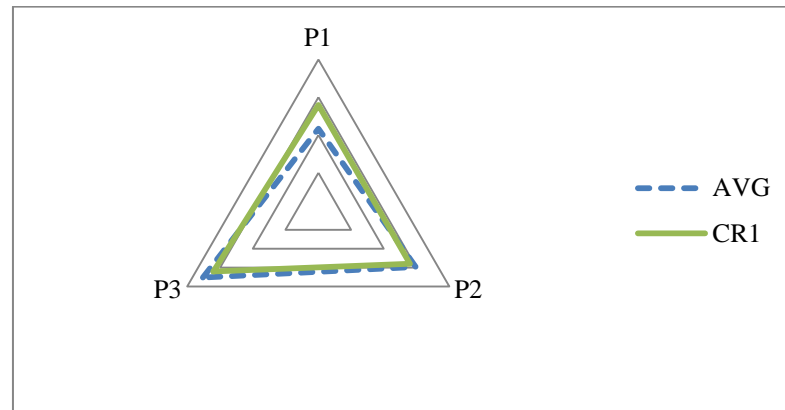
- **AVG, and STD for Three Phases P1, P2, and P3 (University application)**



- **CR1 vs. AVG University application Emotion Line (EL)**



- **CR1 vs. AVG University application using Radar Plots**



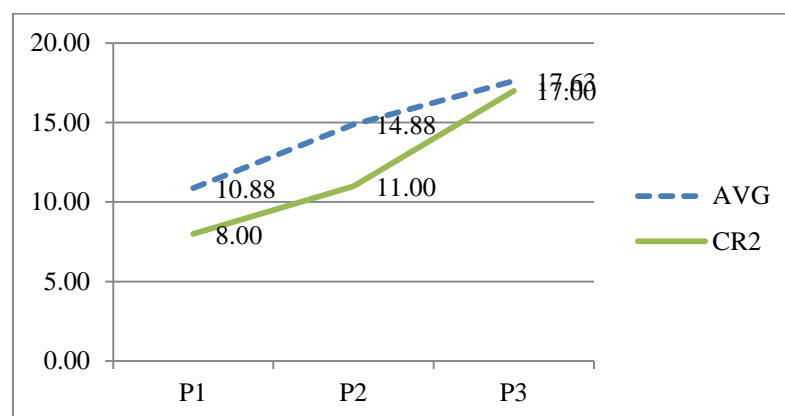
- **CR1 vs. AVG University application per P1, P2, and P3**

CR1	AVG
44.00	43.38

- **CR1 vs. AVG University application per Phase (P)**

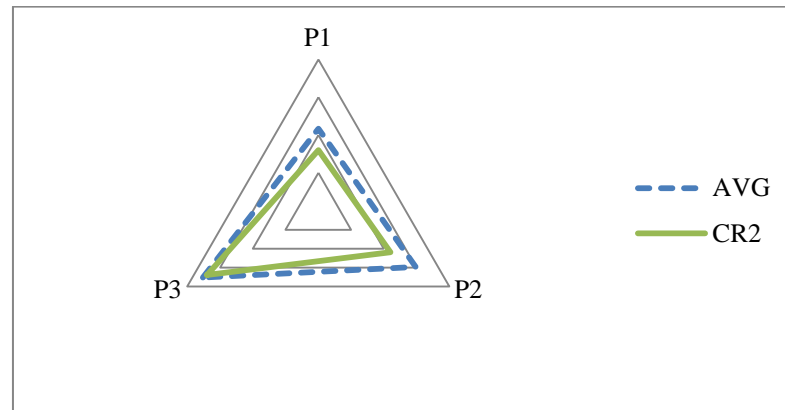
P	CR1	AVG
P1	14.00	10.88
P2	14.00	14.88
P3	16.00	17.63

- **CR2 vs. AVG University application Emotion Line (EL)**





- **CR2 vs. AVG University application using Radar Plots**



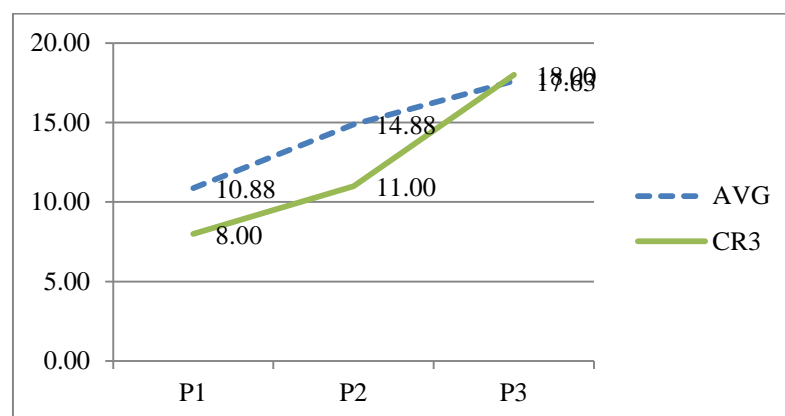
- **CR2 vs. AVG University application per P1, P2, and P3**

CR2	AVG
36.00	43.38

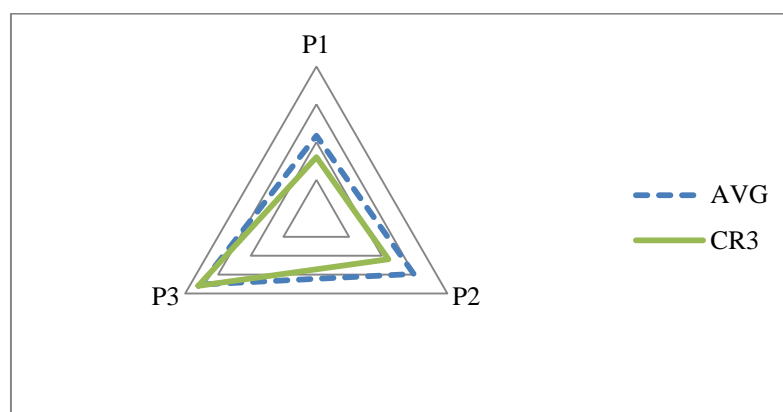
- **CR2 vs. AVG University application per Phase (P)**

P	CR2	AVG
P1	08.00	10.88
P2	11.00	14.88
P3	17.00	17.63

- **CR3 vs. AVG University application Emotion Line (EL)**



- **CR3 vs. AVG University application using Radar Plots**



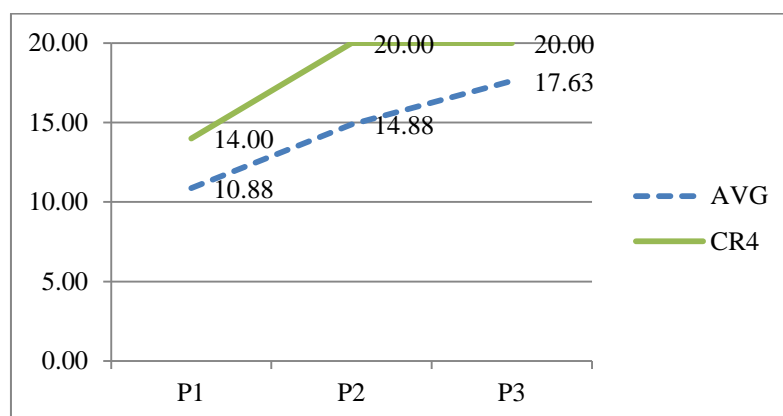
- **CR3 vs. AVG University application per P1, P2, and P3**

CR3	AVG
37.00	43.38

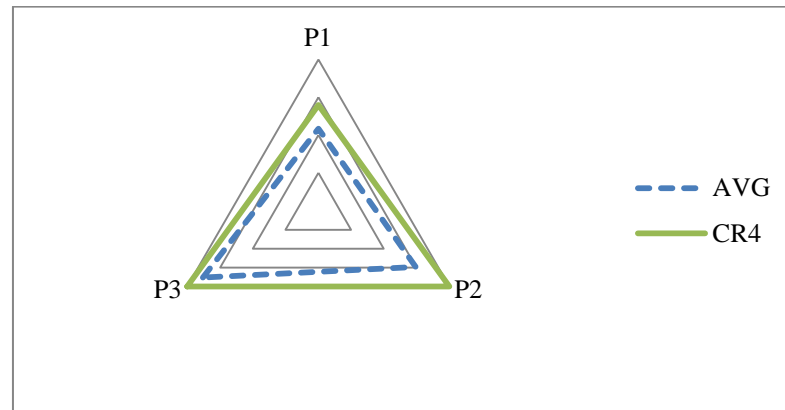
- **CR3 vs. AVG University application per Phase (P)**

P	CR3	AVG
P1	08.00	10.88
P2	11.00	14.88
P3	18.00	17.63

- **CR4 vs. AVG University application Emotion Line (EL)**



- **CR4 vs. AVG University application using Radar Plots**



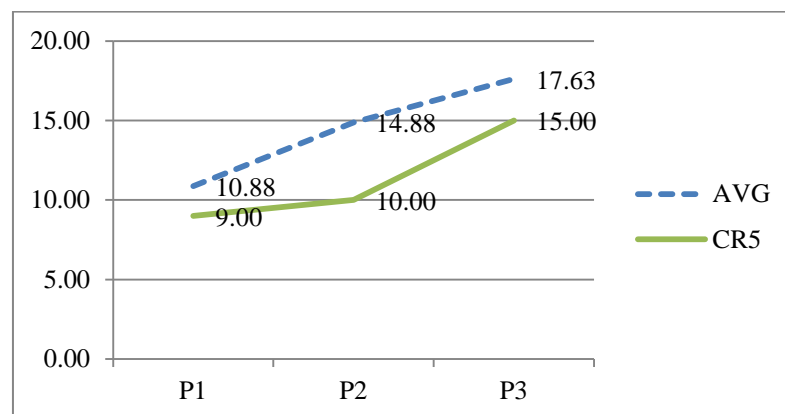
- **CR4 vs. AVG University application per P1, P2, and P3**

CR4	AVG
54.00	43.38

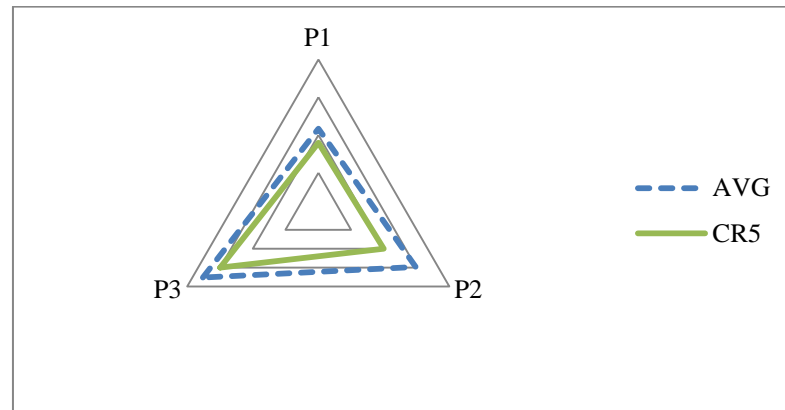
- **CR4 vs. AVG University application per Phase (P)**

P	CR4	AVG
P1	14.00	10.88
P2	20.00	14.88
P3	20.00	17.63

- **CR5 vs. AVG University application Emotion Line (EL)**



- **CR5 vs. AVG University application using Radar Plots**



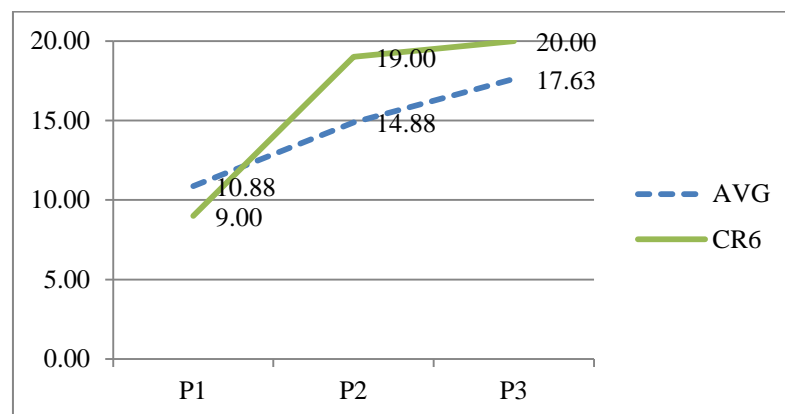
- **CR5 vs. AVG University application per P1, P2, and P3**

CR5	AVG
34.00	43.38

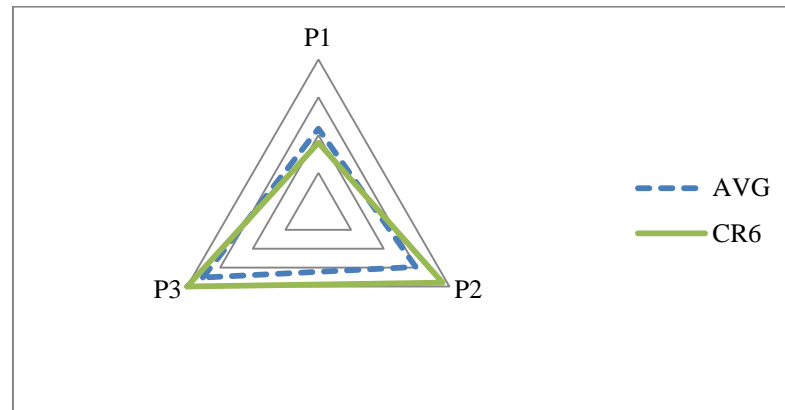
- **CR5 vs. AVG University application per Phase (P)**

P	CR5	AVG
P1	09.00	10.88
P2	10.00	14.88
P3	15.00	17.63

- **CR6 vs. AVG University application Emotion Line (EL)**



- **CR6 vs. AVG University application using Radar Plots**



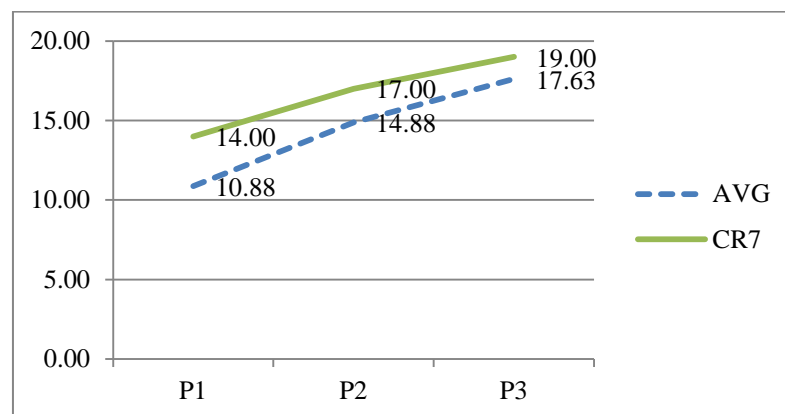
- **CR6 vs. AVG University application per P1, P2, and P3**

CR6	AVG
48.00	43.38

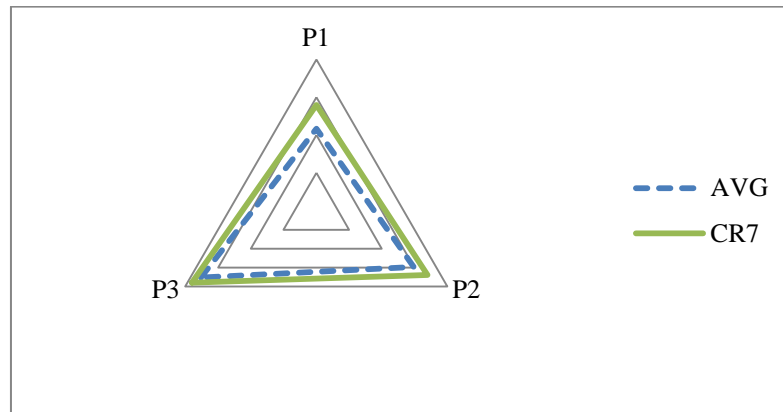
- **CR6 vs. AVG University application per Phase (P)**

P	CR6	AVG
P1	09.00	10.88
P2	19.00	14.88
P3	20.00	17.63

- **CR7 vs. AVG University application Emotion Line (EL)**



- **CR7 vs. AVG University application using Radar Plots**



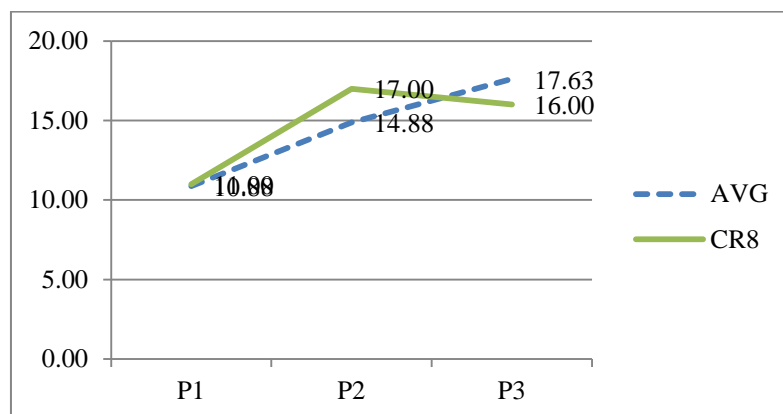
- **CR7 vs. AVG University application per P1, P2, and P3**

CR7	AVG
58.00	43.38

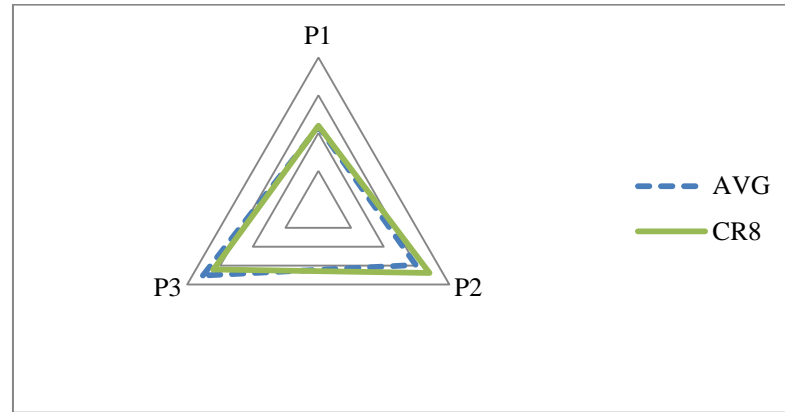
- **CR7 vs. AVG University application per Phase (P)**

P	CR7	AVG
P1	14.00	10.88
P2	17.00	14.88
P3	19.00	17.63

- **CR8 vs. AVG University application Emotion Line (EL)**



- **CR8 vs. AVG University application using Radar Plots**



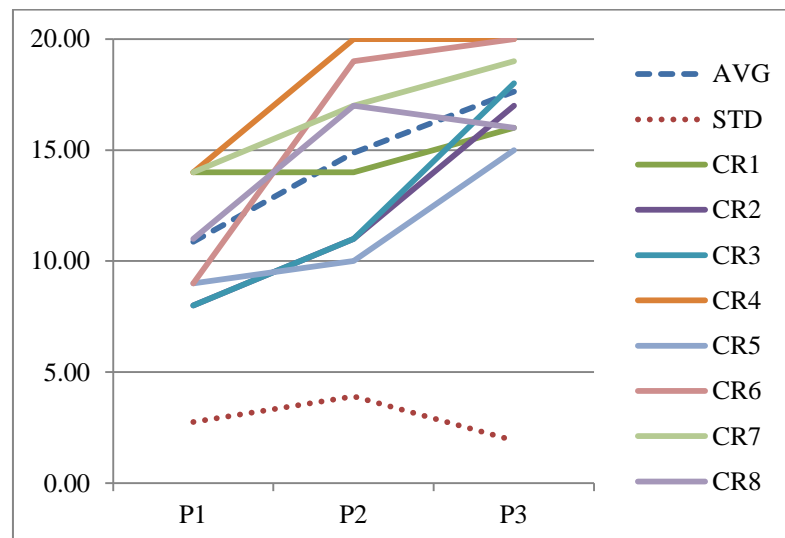
- **CR8 vs. AVG University application per P1, P2, and P3**

CR8	AVG
44.00	43.38

- **CR8 vs. AVG University application per Phase (P)**

P	CR8	AVG
P1	11.00	10.88
P2	17.00	14.88
P3	16.00	17.63

- **CR vs. AVG vs. STD University application Emotion Line (EL)**



## H. Full analysis for National ID card using iMGov4C

- National ID card iMGov4C Summary**

<b>e-Service</b>	National ID card		
<b>Definition</b>	Using the organization website to apply for national ID Card		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	11		
<b>Results</b>	(P1) (P2) (P3)	AVG= 45.09	STD= 08.65
	(P1) Placing an Order	AVG= 12.27	STD= 03.72
	(P2) Processing an Order	AVG= 15.73	STD= 03.10
	(P3) Delivering an Order	AVG= 17.09	STD= 03.65
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (National ID card)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	7	3	1
C/P1/A1/F1	2	0	9
C/P1/A1/F2	10	0	1
C/P1/A1/F3	11	0	0
C/P1/A2/F1	5	0	6
C/P1/A2/F2	4	0	7
C/P1/A2/F3	0	0	11
C/P1/A3/F1	4	0	7
C/P1/A3/F2	0	0	11
C/P1/A3/F3	8	0	3

- Total number of Citizens' Responses per Phase 1 (P1) (National ID card)**

	Results	Out of	Notes
# of R/P	11	11	
# of 2 (Positive)/P	51	110	10 Factors * 11 Responses
# of 1 (Neutral)/P	3	11	1 Factor * 11 Responses
# of 0 (Negative)/P	56	110	10 Factors * 11 Responses



- **Number of Citizens' Responses per Factor for Phase 2 (P2) (National ID card)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	10	1	0
C/P2/A1/F1	9	0	2
C/P2/A1/F2	6	0	5
C/P2/A1/F3	8	3	0
C/P2/A2/F1	4	0	7
C/P2/A2/F2	9	0	2
C/P2/A2/F3	9	2	0
C/P2/A3/F1	9	0	2
C/P2/A3/F2	9	2	0
C/P2/A3/F3	10	0	1

- **Total number of Citizens' Responses for Phase 2 (P2) (National ID card)**

	Results	Out of
# of R/P	11	11
# of 2 (Positive)/P	83	110
# of 1 (Neutral)/P	8	44
# of 0 (Negative)/P	19	110

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (National ID card)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	5	1	5
C/P3/A1/F1	10	0	1
C/P3/A1/F2	10	0	1
C/P3/A1/F3	9	1	1
C/P3/A2/F1	9	0	2
C/P3/A2/F2	10	0	1
C/P3/A2/F3	10	0	1
C/P3/A3/F1	10	0	1
C/P3/A3/F2	10	0	1
C/P3/A3/F3	9	0	2

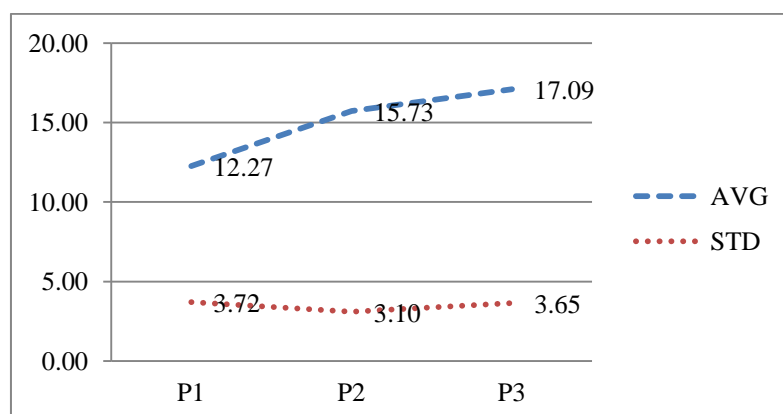
- **Total number of Citizens' Responses for Phase 3 (P3) (National ID card)**

	Results	Out of
# of R/P	11	11
# of 2 (Positive)/P	92	110
# of 1 (Neutral)/P	2	44
# of 0 (Negative)/P	16	110

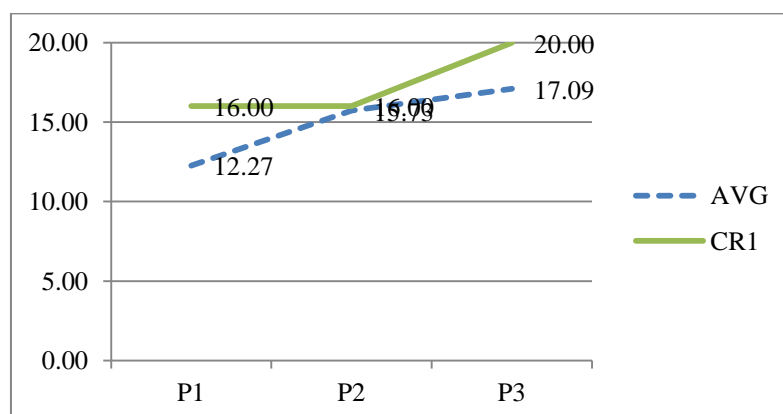
- **Total number of Citizens' Responses for (National ID card)**

	Results	Out of
# of R/C	11	11
# of 2 (Positive)/C	226	330
# of 1 (Neutral)/C	13	99
# of 0 (Negative)/C	91	330

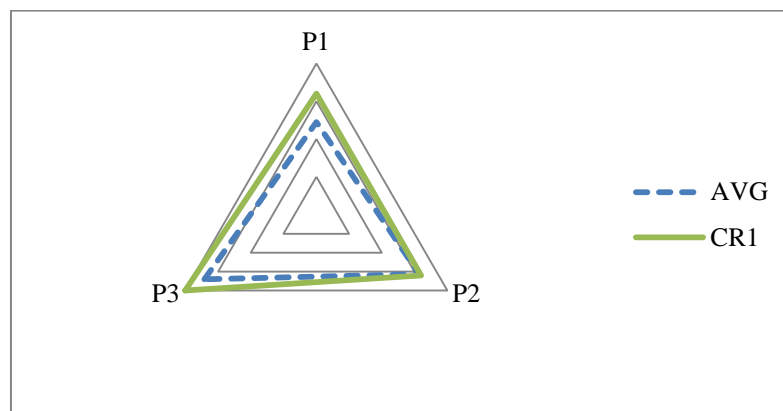
- **AVG, and STD for Three Phases P1, P2, and P3 (National ID card)**



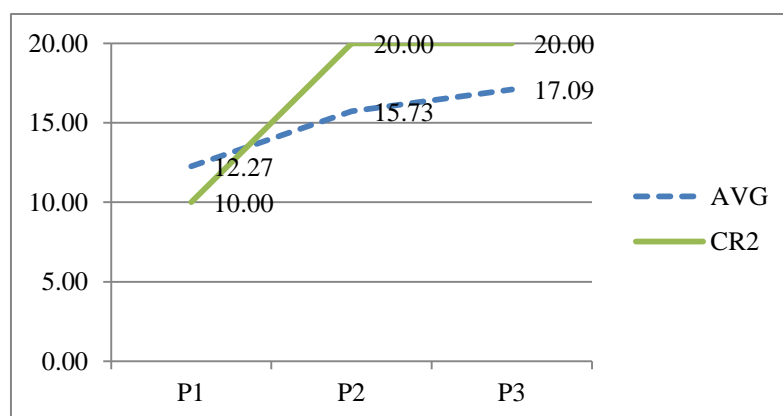
- **CR1 vs. AVG National ID card Emotion Line (EL)**



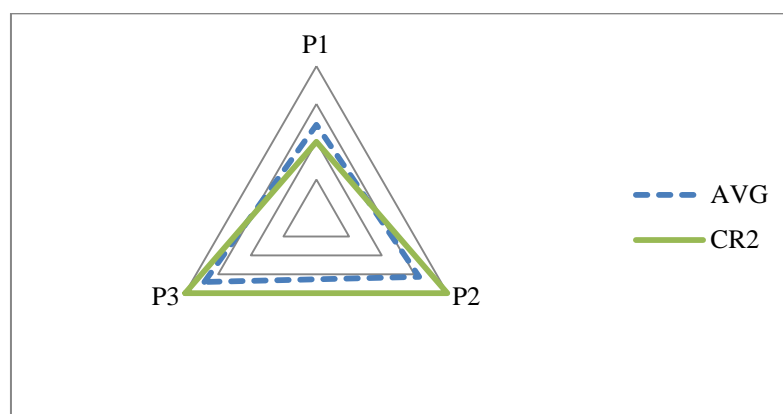
- **CR1 vs. AVG National ID card using Radar Plots**



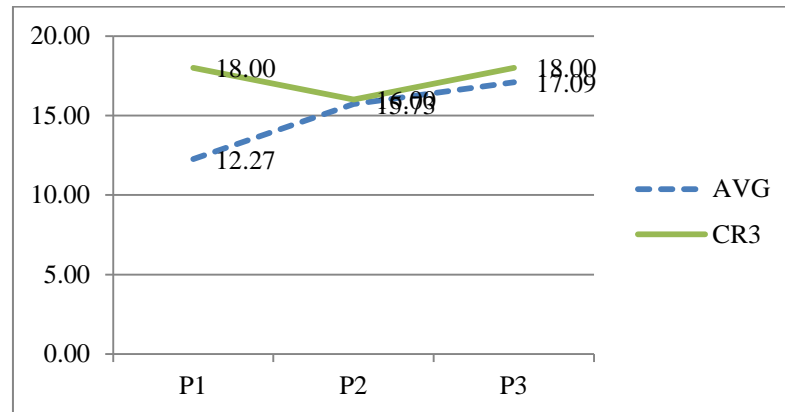
- **CR2 vs. AVG National ID card Emotion Line (EL)**



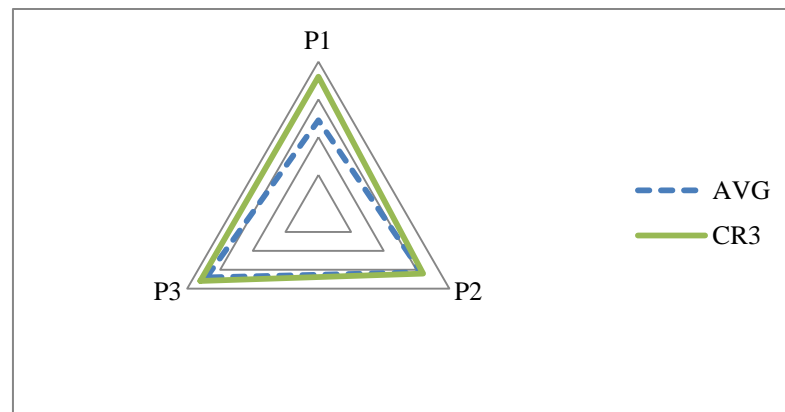
- **CR2 vs. AVG National ID card using Radar Plots**



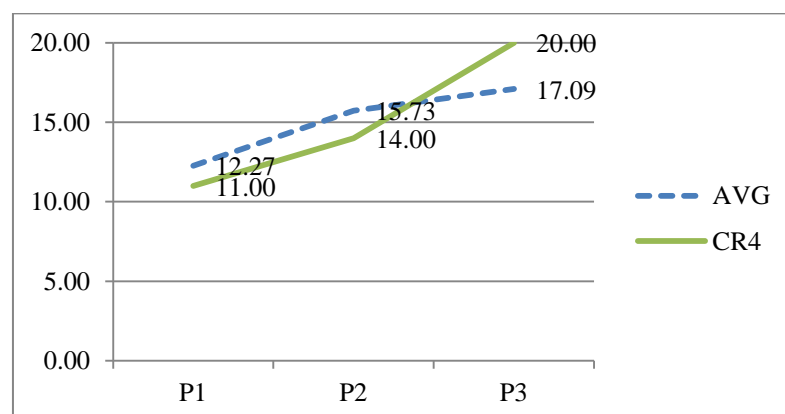
- **CR3 vs. AVG National ID card Emotion Line (EL)**



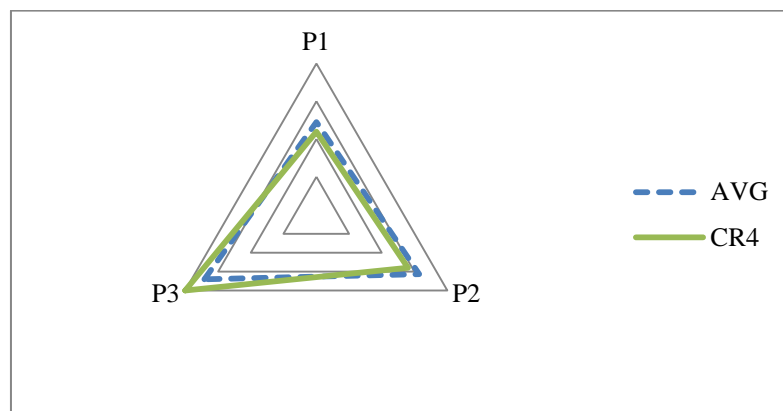
- **CR3 vs. AVG National ID card using Radar Plots**



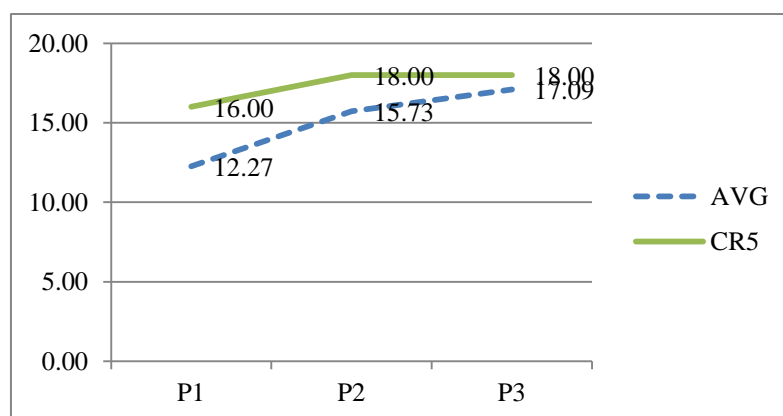
- **CR4 vs. AVG National ID card Emotion Line (EL)**



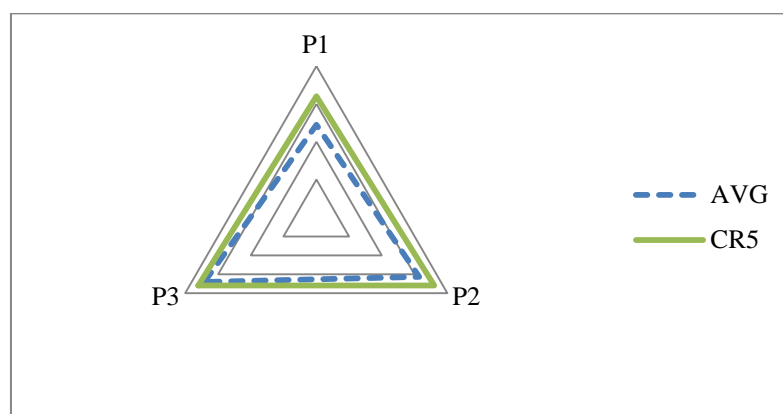
- **CR4 vs. AVG National ID card using Radar Plots**



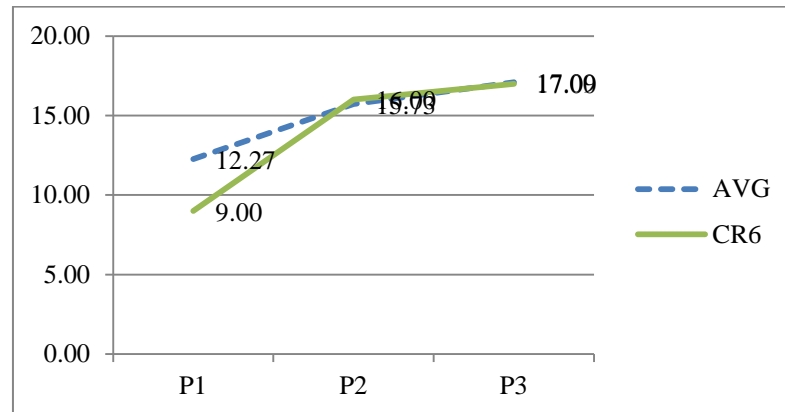
- **CR5 vs. AVG National ID card Emotion Line (EL)**



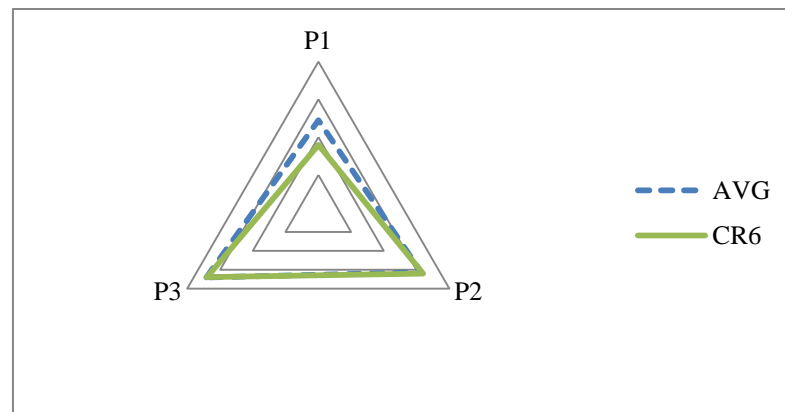
- **CR5 vs. AVG National ID card using Radar Plots**



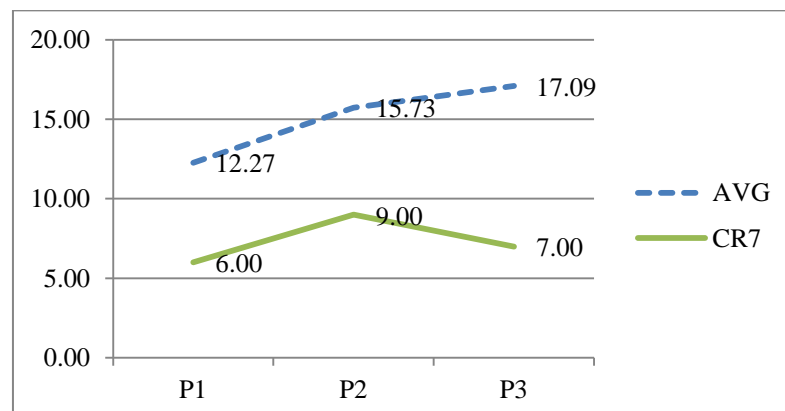
- **CR6 vs. AVG National ID card Emotion Line (EL)**



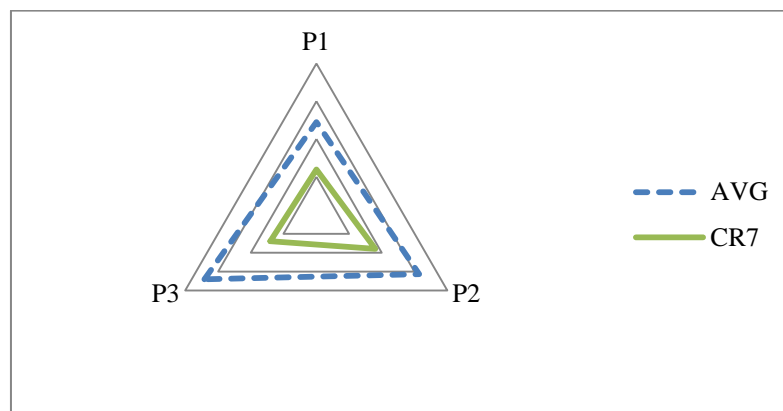
- **CR6 vs. AVG National ID card using Radar Plots**



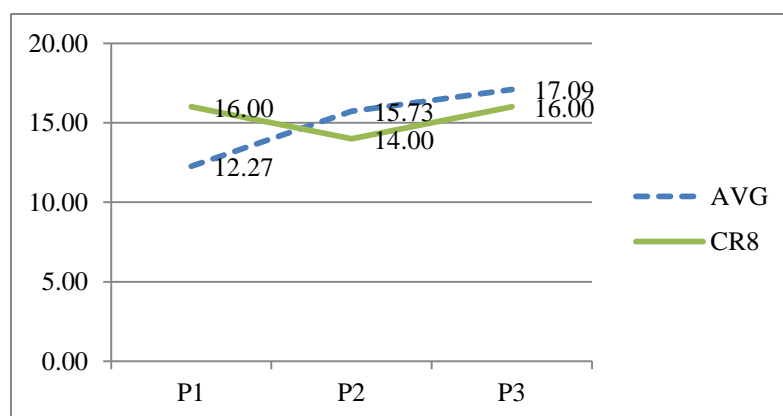
- **CR7 vs. AVG National ID card Emotion Line (EL)**



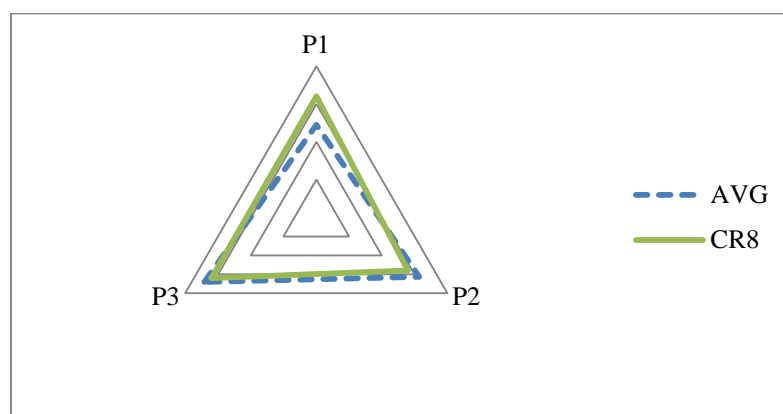
- **CR7 vs. AVG National ID card using Radar Plots**



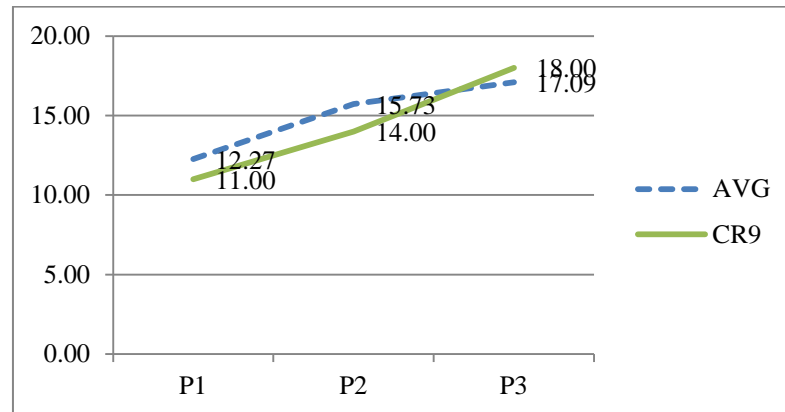
- **CR8 vs. AVG National ID card Emotion Line (EL)**



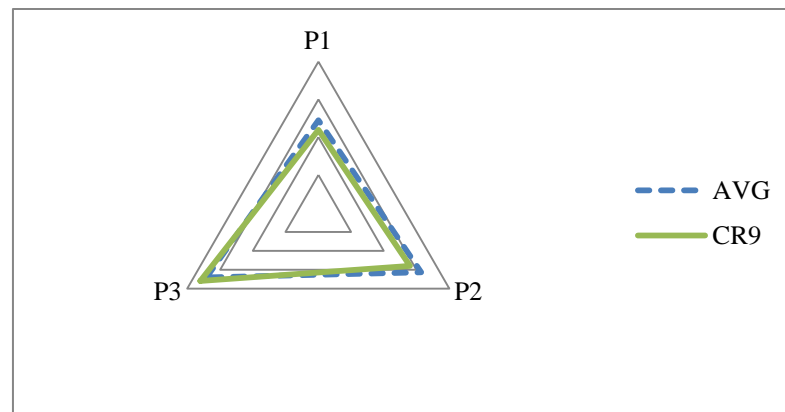
- **CR8 vs. AVG National ID card using Radar Plots**



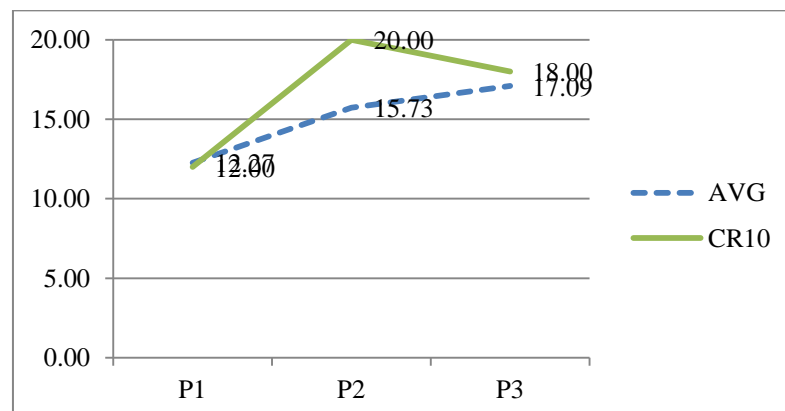
- **CR9 vs. AVG National ID card Emotion Line (EL)**



- **CR9 vs. AVG National ID card using Radar Plots**

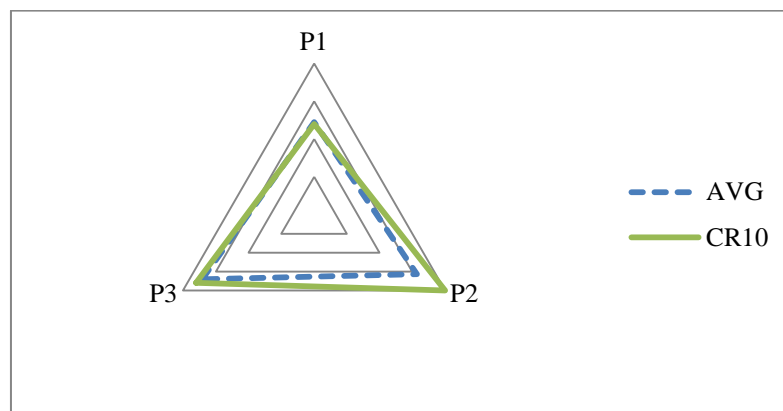


- **CR10 vs. AVG National ID card Emotion Line (EL)**

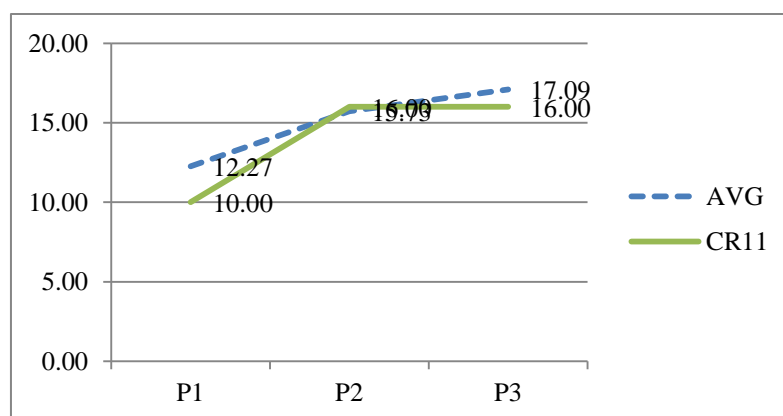




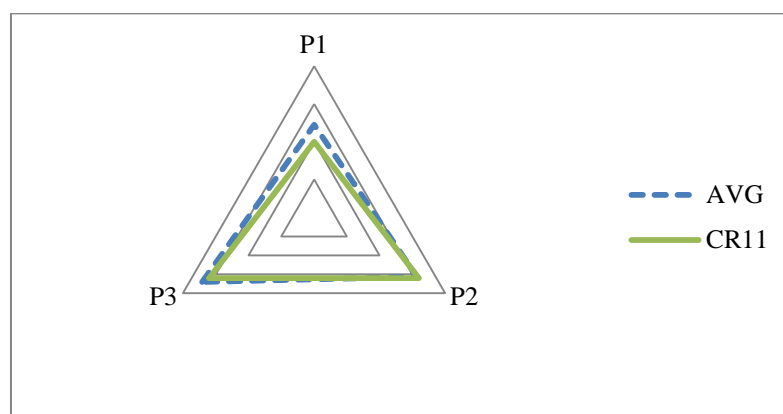
- **CR10 vs. AVG National ID card using Radar Plots**



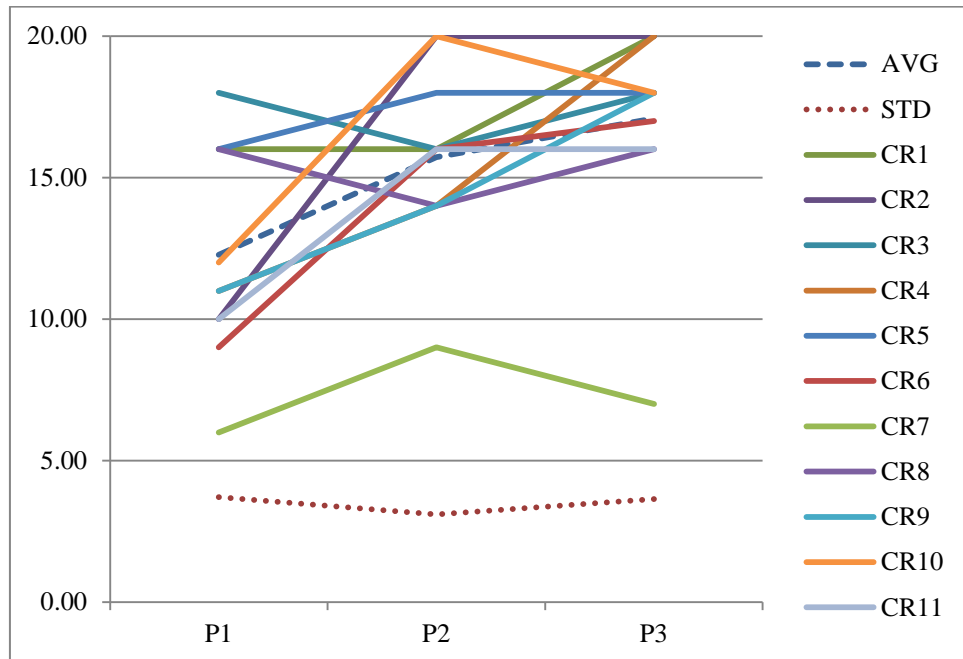
- **CR11 vs. AVG National ID card Emotion Line (EL)**



- **CR11 vs. AVG National ID card using Radar Plots**



- **CR vs. AVG vs. STD National ID card Emotion Line (EL)**



## I. Full analysis for e-Gate using iMGov4C

- e-Gate iMGov4C Summary

<b>e-Service</b>	e-Gate		
<b>Definition</b>	Using the organization website to apply for e-Gate card that works as a passport in airports		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	6		
<b>Results</b>	(P1) (P2) (P3)	AVG= 34.00	STD= 16.79
	(P1) Placing an Order	AVG= 09.67	STD= 04.32
	(P2) Processing an Order	AVG= 10.17	STD= 05.74
	(P3) Delivering an Order	AVG= 14.17	STD= 07.70
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (e-Gate)

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	3	2	1
C/P1/A1/F1	5	0	1
C/P1/A1/F2	0	0	6
C/P1/A1/F3	6	0	0
C/P1/A2/F1	4	0	2
C/P1/A2/F2	1	0	5
C/P1/A2/F3	4	0	2
C/P1/A3/F1	2	0	4
C/P1/A3/F2	0	0	6
C/P1/A3/F3	3	0	3

- Total number of Citizens' Responses per Phase 1 (P1) (e-Gate)

	Results	Out of	Notes
# of R/P	6	6	
# of 2 (Positive)/P	28	60	10 Factors * 6 Responses
# of 1 (Neutral)/P	2	6	1 Factor * 6 Responses
# of 0 (Negative)/P	30	60	10 Factors * 6 Responses

- **Number of Citizens' Responses per Factor for Phase 2 (P2) (e-Gate)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	3	2	1
C/P2/A1/F1	4	0	2
C/P2/A1/F2	3	0	3
C/P2/A1/F3	0	0	6
C/P2/A2/F1	2	3	1
C/P2/A2/F2	1	4	1
C/P2/A2/F3	1	0	5
C/P2/A3/F1	5	0	1
C/P2/A3/F2	1	4	1
C/P2/A3/F3	4	0	2

- **Total number of Citizens' Responses for Phase 2 (P2) (e-Gate)**

	Results	Out of
# of R/P	6	6
# of 2 (Positive)/P	24	60
# of 1 (Neutral)/P	13	24
# of 0 (Negative)/P	23	60

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (e-Gate)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	3	2	1
C/P3/A1/F1	5	0	1
C/P3/A1/F2	4	0	2
C/P3/A1/F3	4	1	1
C/P3/A2/F1	3	2	1
C/P3/A2/F2	5	0	1
C/P3/A2/F3	5	0	1
C/P3/A3/F1	4	0	2
C/P3/A3/F2	5	0	1
C/P3/A3/F3	2	0	4

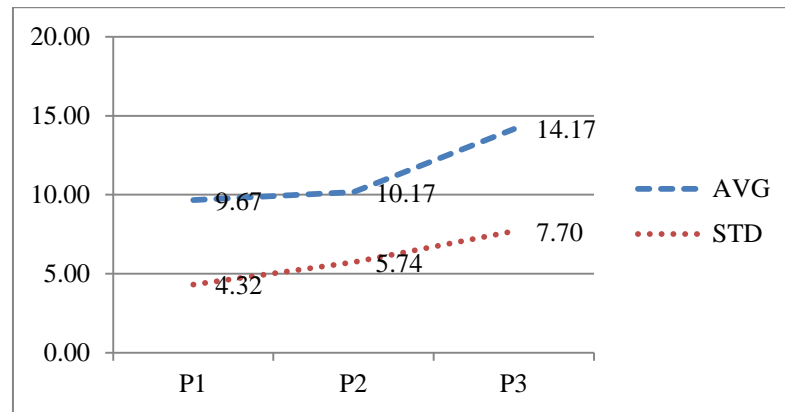
- **Total number of Citizens' Responses for Phase 3 (P3) (e-Gate)**

	Results	Out of
# of R/P	6	6
# of 2 (Positive)/P	40	60
# of 1 (Neutral)/P	5	24
# of 0 (Negative)/P	15	60

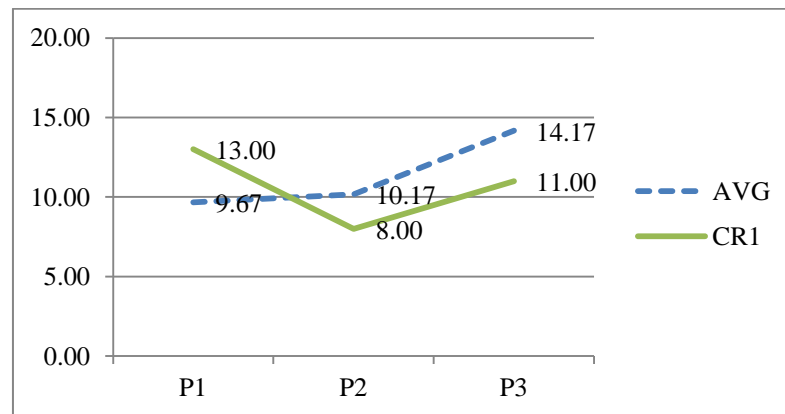
- **Total number of Citizens' Responses for (e-Gate)**

	Results	Out of
# of R/C	6	6
# of 2 (Positive)/C	92	180
# of 1 (Neutral)/C	20	54
# of 0 (Negative)/C	68	180

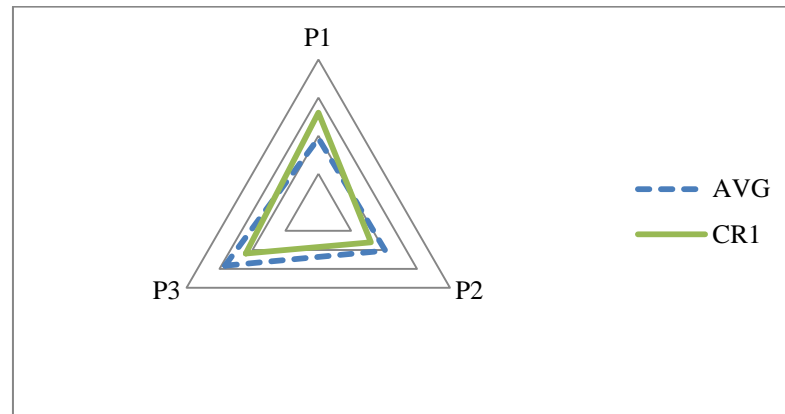
- **AVG, and STD for Three Phases P1, P2, and P3 (e-Gate)**



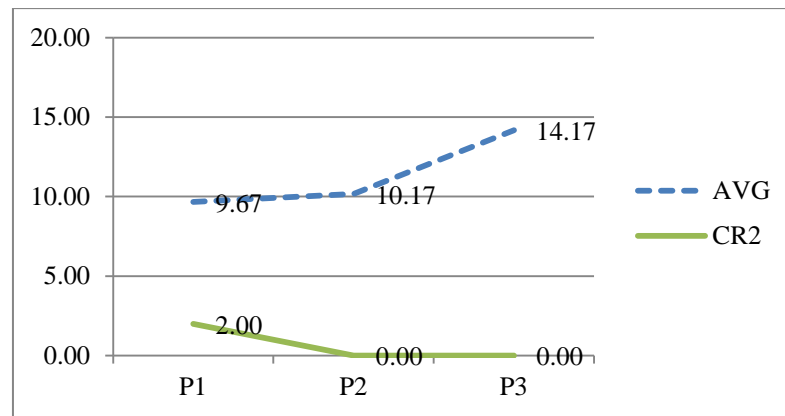
- **CR1 vs. AVG e-Gate Emotion Line (EL)**



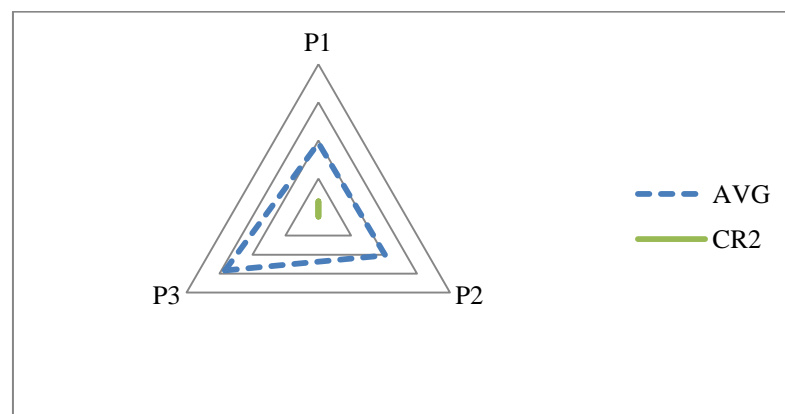
- **CR1 vs. AVG e-Gate using Radar Plots**



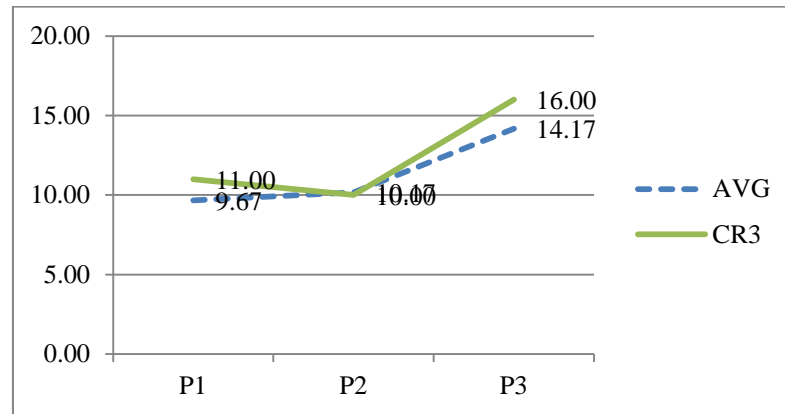
- **CR2 vs. AVG e-Gate Emotion Line (EL)**



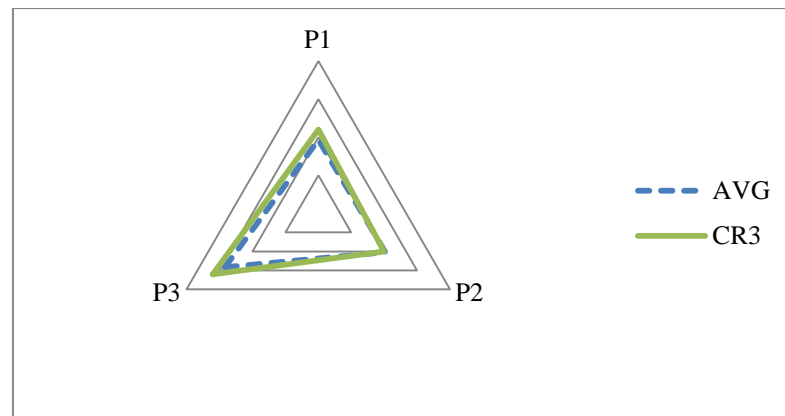
- **CR2 vs. AVG e-Gate using Radar Plots**



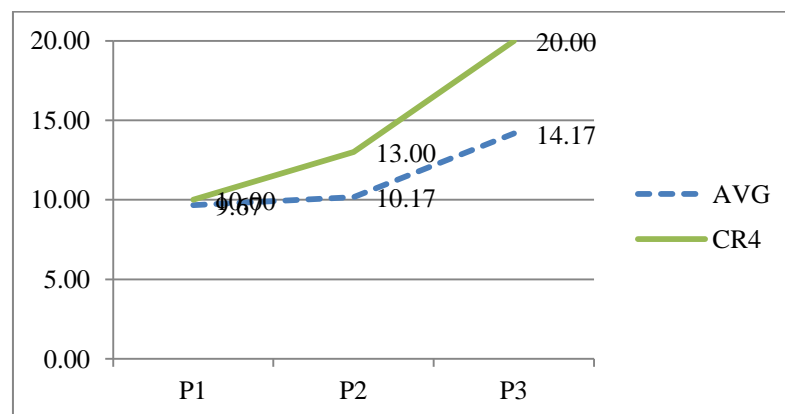
- **CR3 vs. AVG e-Gate Emotion Line (EL)**



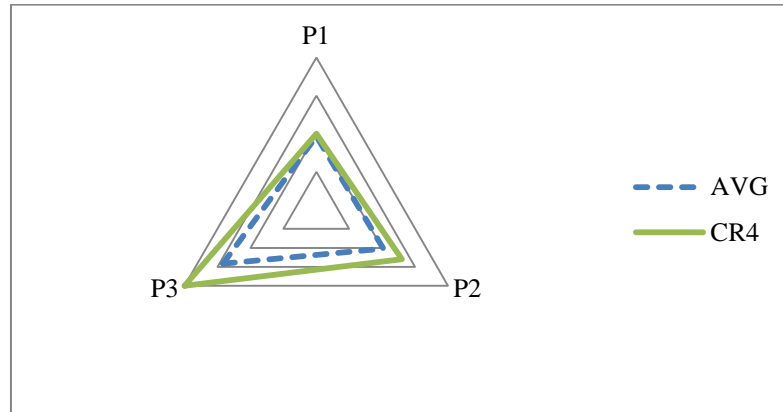
- **CR3 vs. AVG e-Gate using Radar Plots**



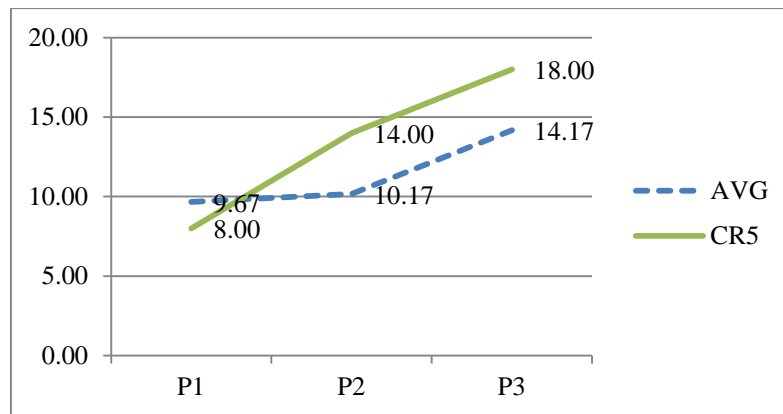
- **CR4 vs. AVG e-Gate Emotion Line (EL)**



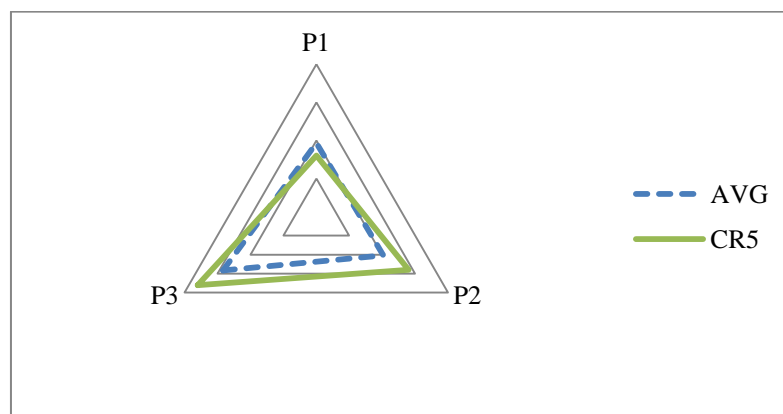
- **CR4 vs. AVG e-Gate using Radar Plots**



- **CR5 vs. AVG e-Gate Emotion Line (EL)**

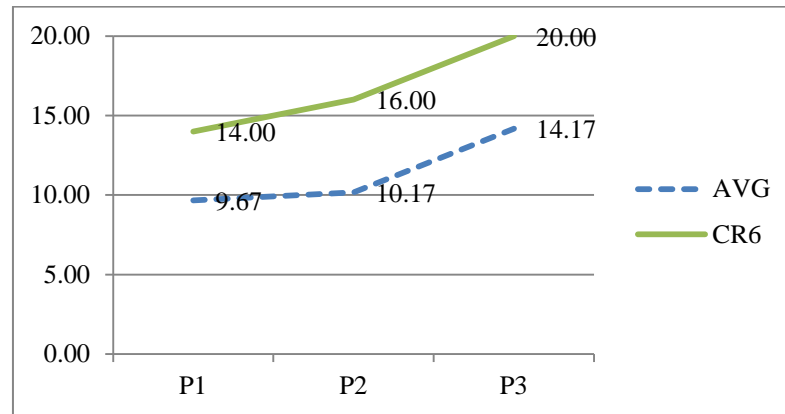


- **CR5 vs. AVG e-Gate using Radar Plots**

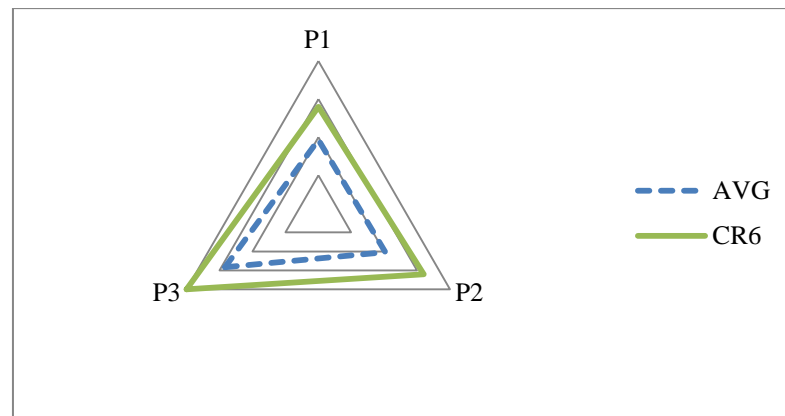




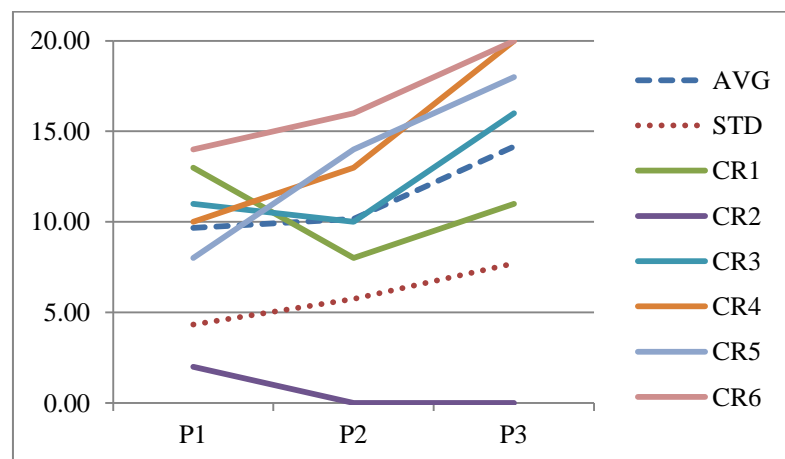
- **CR6 vs. AVG e-Gate Emotion Line (EL)**



- **CR6 vs. AVG e-Gate using Radar Plots**



- **CR vs. AVG vs. STD e-Gate Emotion Line (EL)**



## J. Full analysis for scholarship using iMGov4C

- Scholarship iMGov4C Summary**

<b>e-Service</b>	Scholarship		
<b>Definition</b>	Using the organization website to apply for scholarship e-Services provided to students who study abroad		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	15		
<b>Results</b>	(P1) (P2) (P3)	AVG= 44.53	STD= 08.26
	(P1) Placing an Order	AVG= 11.87	STD= 08.26
	(P2) Processing an Order	AVG= 16.00	STD= 03.16
	(P3) Delivering an Order	AVG= 16.67	STD= 04.56
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (Scholarship)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	12	2	1
C/P1/A1/F1	14	0	1
C/P1/A1/F2	3	0	12
C/P1/A1/F3	11	0	4
C/P1/A2/F1	14	0	1
C/P1/A2/F2	13	0	2
C/P1/A2/F3	13	0	2
C/P1/A3/F1	1	0	14
C/P1/A3/F2	0	0	15
C/P1/A3/F3	7	0	8

- Total number of citizens' Responses per Phase 1 (P1) (Scholarship)**

	Results	Out of	Notes
# of R/P	15	15	
# of 2 (Positive)/P	88	150	10 Factors * 15 Responses
# of 1 (Neutral)/P	2	15	1 Factor * 15 Responses
# of 0 (Negative)/P	60	150	10 Factors * 15 Responses

- **Number of Citizens' Responses per Factor for Phase 2 (P2) (Scholarship)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	7	6	2
C/P2/A1/F1	15	0	0
C/P2/A1/F2	15	0	0
C/P2/A1/F3	14	0	1
C/P2/A2/F1	10	5	0
C/P2/A2/F2	7	8	0
C/P2/A2/F3	8	0	7
C/P2/A3/F1	13	0	2
C/P2/A3/F2	8	5	2
C/P2/A3/F3	11	0	4

- **Total number of Citizens' Responses for Phase 2 (P2) (Scholarship)**

	Results	Out of
# of R/P	15	15
# of 2 (Positive)/P	108	150
# of 1 (Neutral)/P	24	60
# of 0 (Negative)/P	18	150

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (Scholarship)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	10	3	2
C/P3/A1/F1	12	0	3
C/P3/A1/F2	12	0	3
C/P3/A1/F3	9	5	1
C/P3/A2/F1	10	4	1
C/P3/A2/F2	13	0	2
C/P3/A2/F3	12	0	3
C/P3/A3/F1	15	0	0
C/P3/A3/F2	15	0	0
C/P3/A3/F3	11	0	4

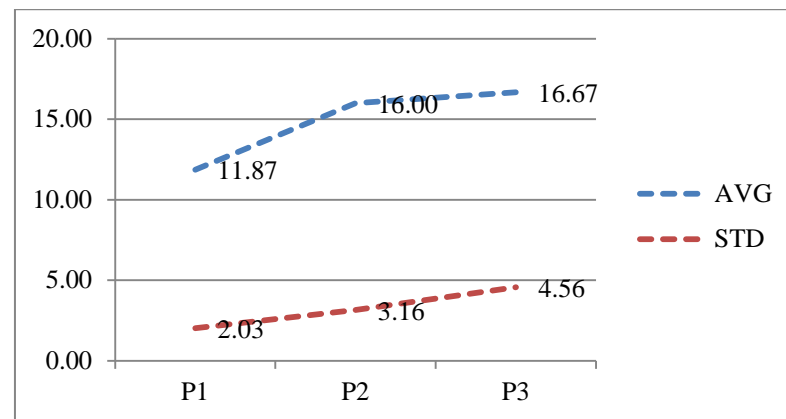
- **Total number of Citizens' Responses for Phase 3 (P3) (Scholarship)**

	Results	Out of
# of R/P	15	15
# of 2 (Positive)/P	119	150
# of 1 (Neutral)/P	12	60
# of 0 (Negative)/P	19	150

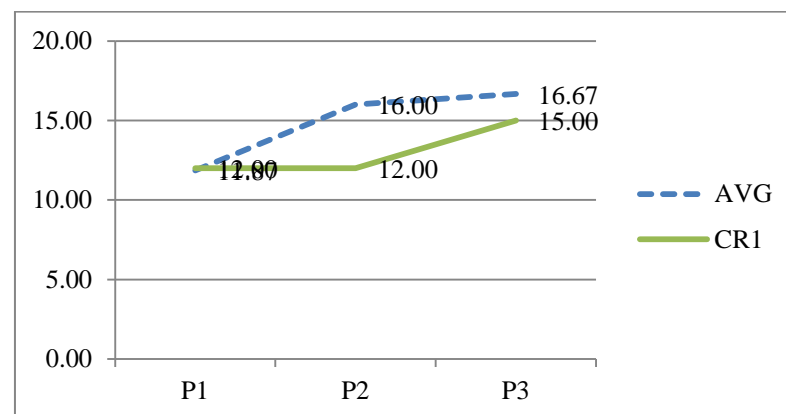
- **Total number of Citizens' Responses for (Scholarship)**

	Results	Out of
# of R/C	15	15
# of 2 (Positive)/C	315	450
# of 1 (Neutral)/C	38	135
# of 0 (Negative)/C	97	450

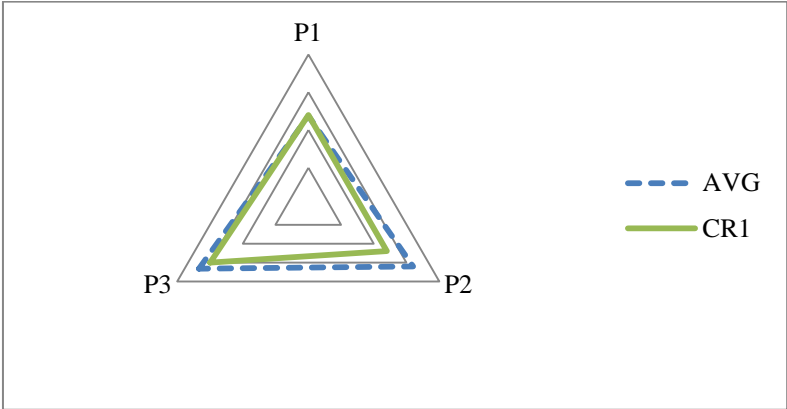
- **AVG, and STD for Three Phases P1, P2, and P3 (Scholarship)**



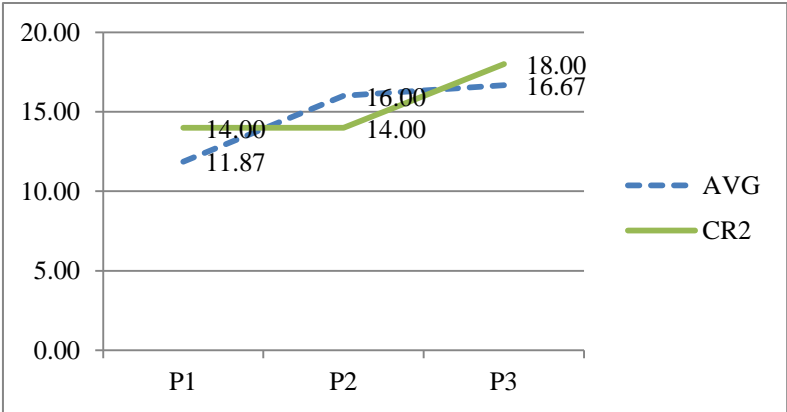
- **CR1 vs. AVG Scholarship Emotion Line (EL)**



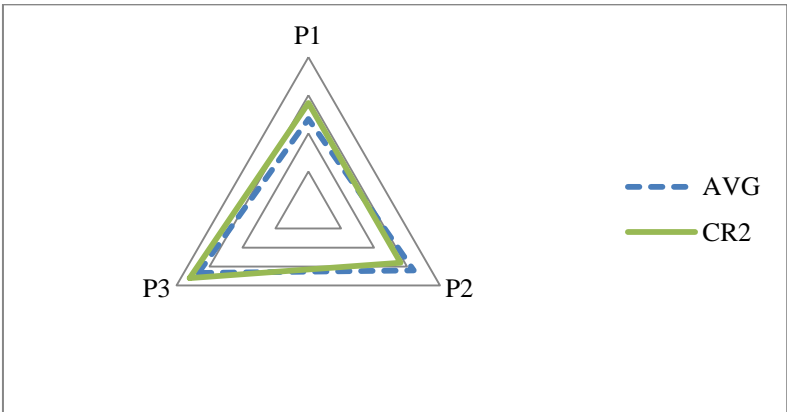
- CR1 vs. AVG Scholarship using Radar Plots**



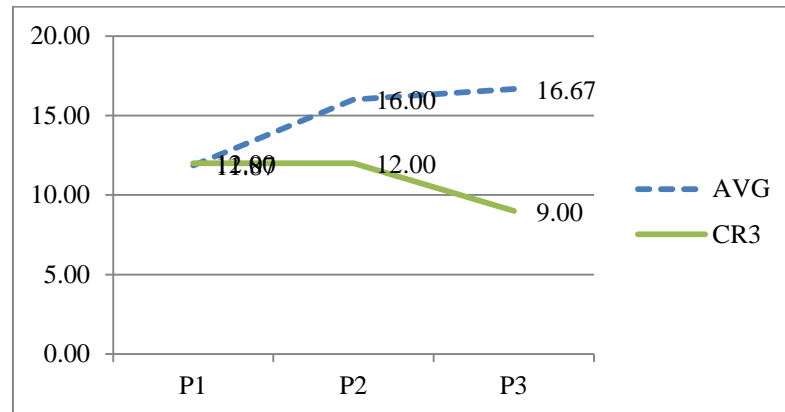
- CR2 vs. AVG Scholarship Emotion Line (EL)**



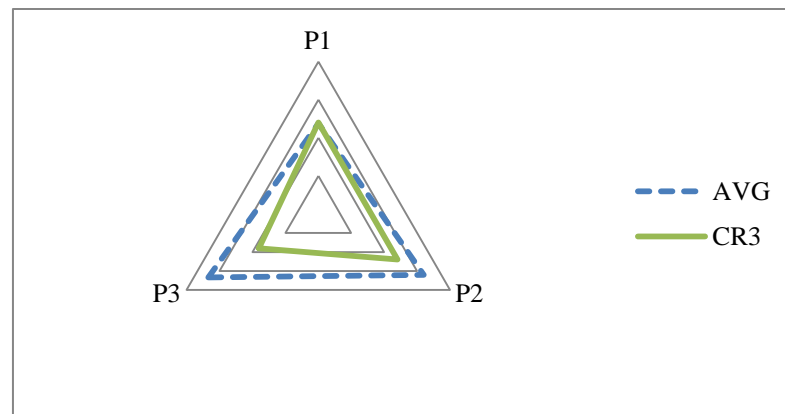
- CR2 vs. AVG Scholarship using Radar Plots**



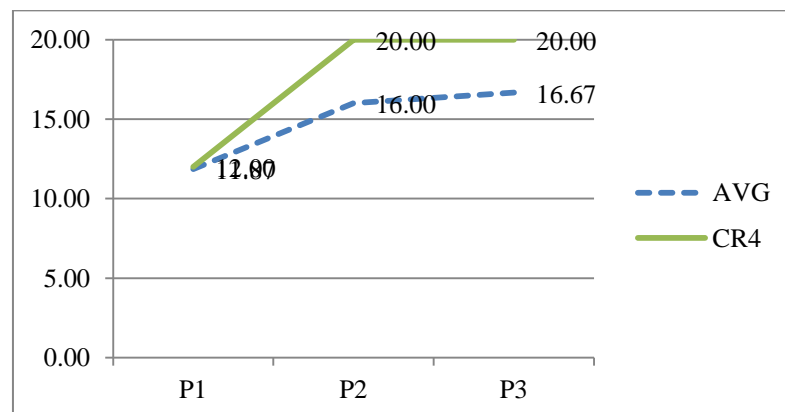
- **CR3 vs. AVG Scholarship Emotion Line (EL)**



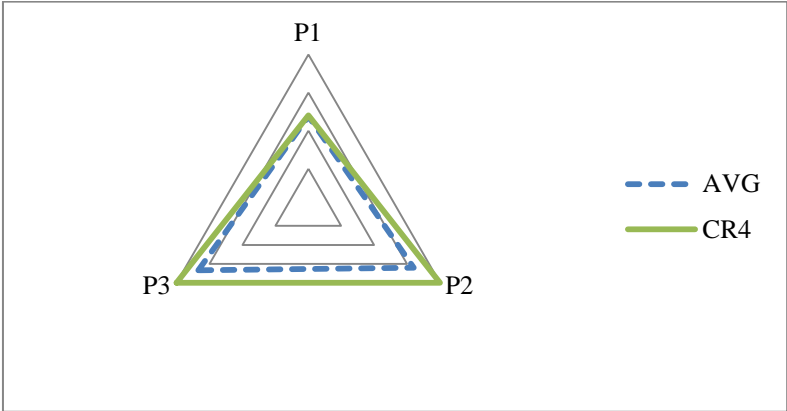
- **CR3 vs. AVG Scholarship using Radar Plots**



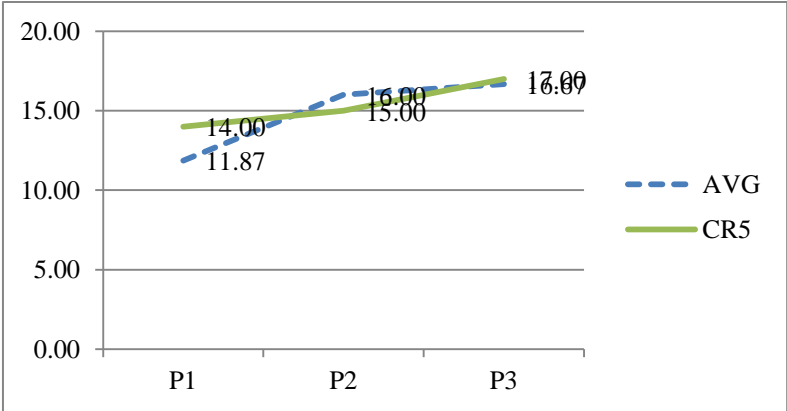
- **CR4 vs. AVG Scholarship Emotion Line (EL)**



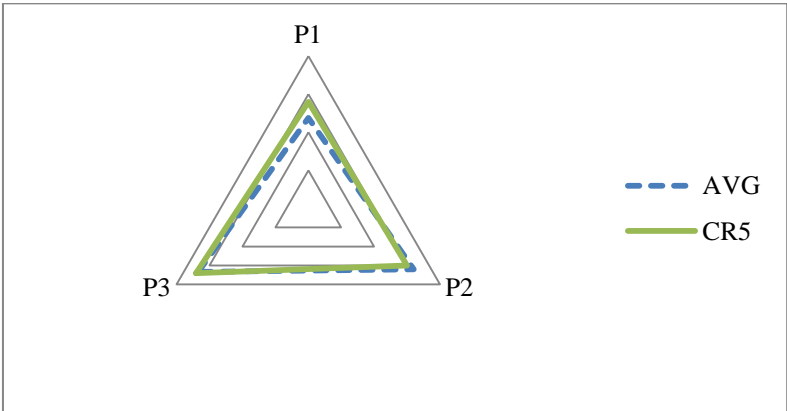
• **CR4 vs. AVG Scholarship using Radar Plots**



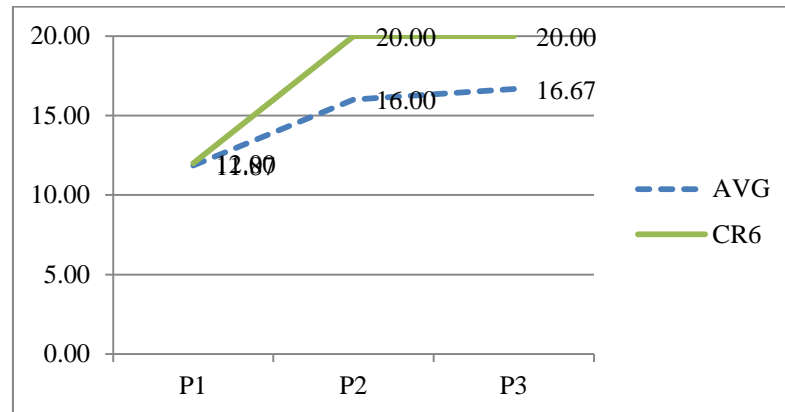
• **CR5 vs. AVG Scholarship Emotion Line (EL)**



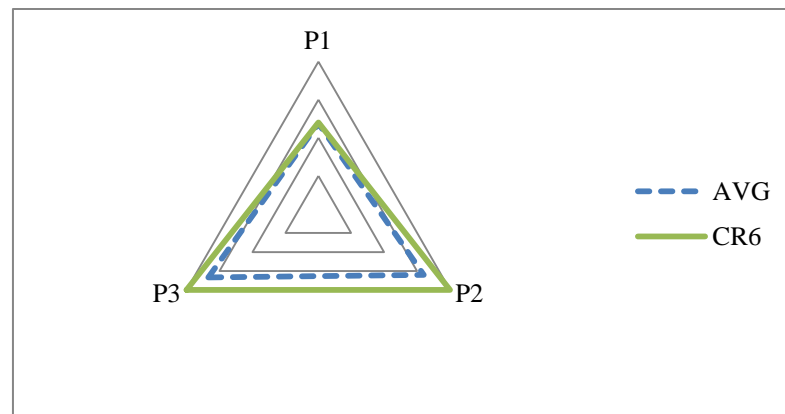
• **CR5 vs. AVG Scholarship using Radar Plots**



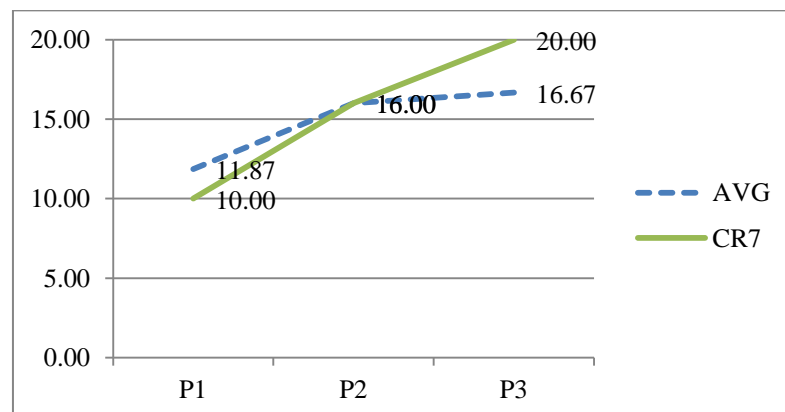
- **CR6 vs. AVG Scholarship Emotion Line (EL)**



- **CR6 vs. AVG Scholarship using Radar Plots**

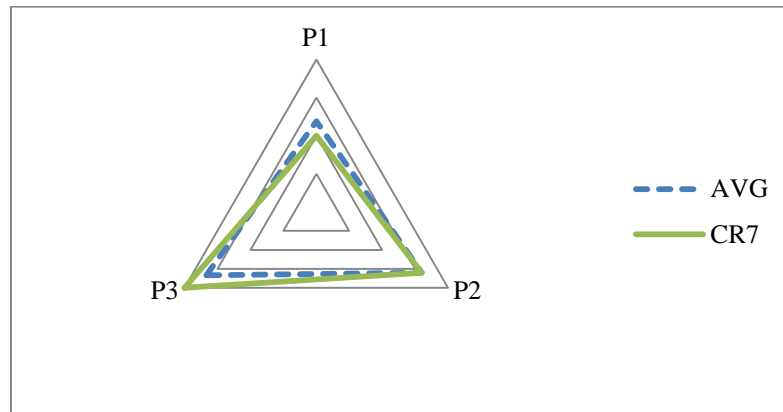


- **CR7 vs. AVG Scholarship Emotion Line (EL)**

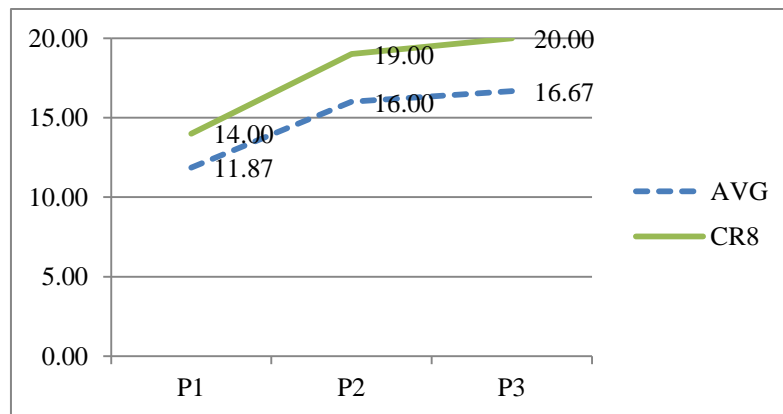




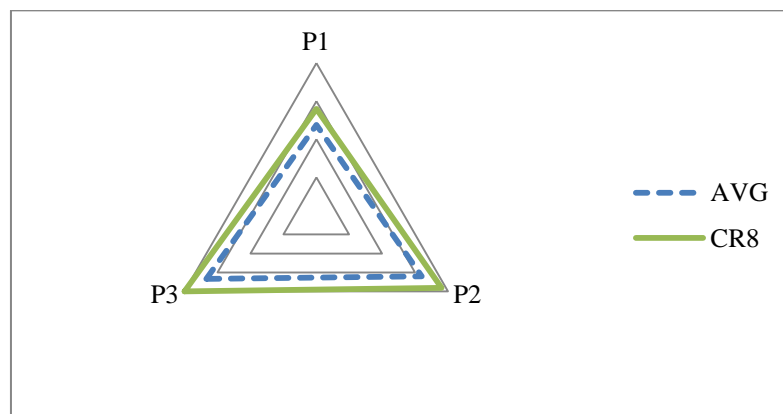
- **CR7 vs. AVG Scholarship using Radar Plots**



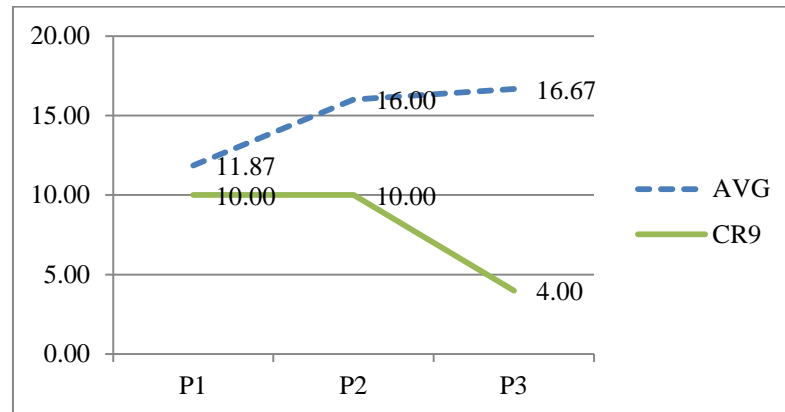
- **CR8 vs. AVG Scholarship Emotion Line (EL)**



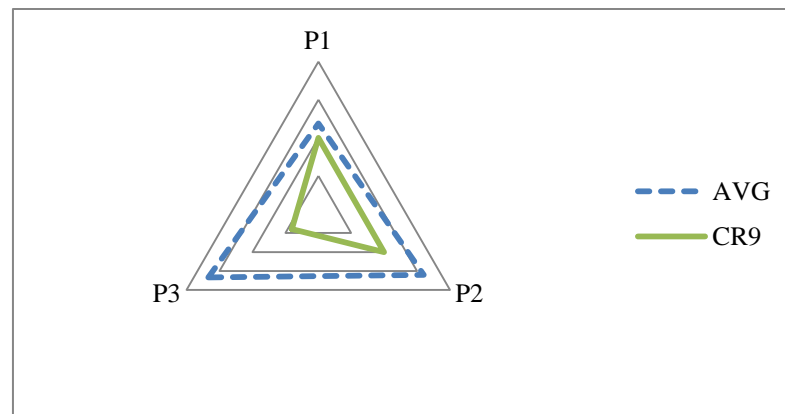
- **CR8 vs. AVG Scholarship using Radar Plots**



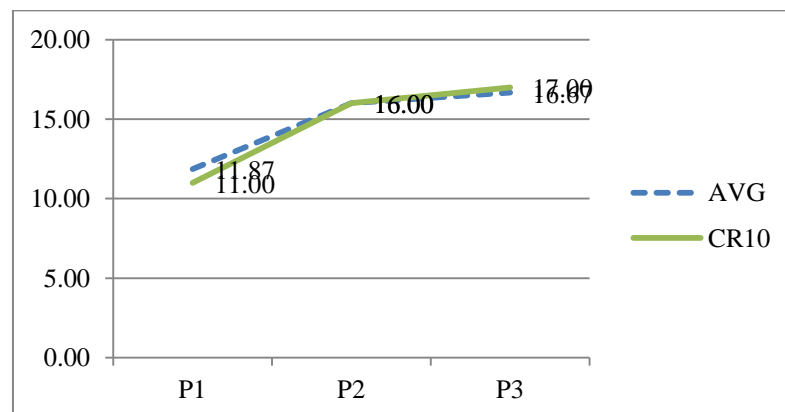
- **CR9 vs. AVG Scholarship Emotion Line (EL)**



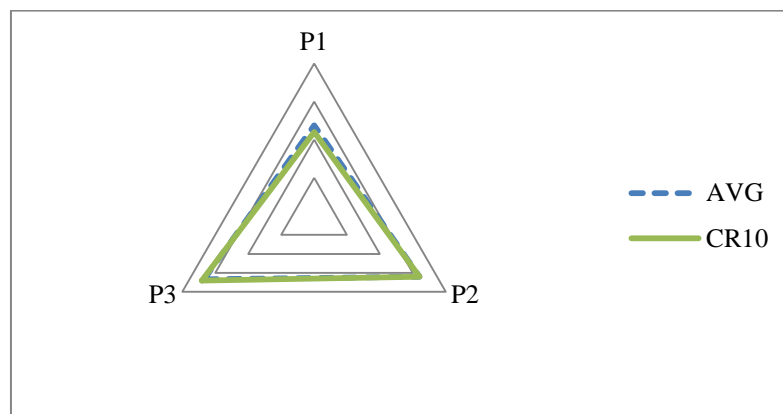
- **CR9 vs. AVG Scholarship using Radar Plots**



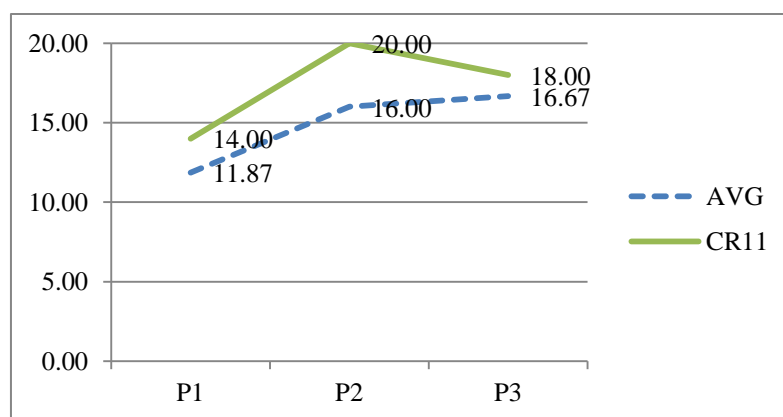
- **CR10 vs. AVG Scholarship Emotion Line (EL)**



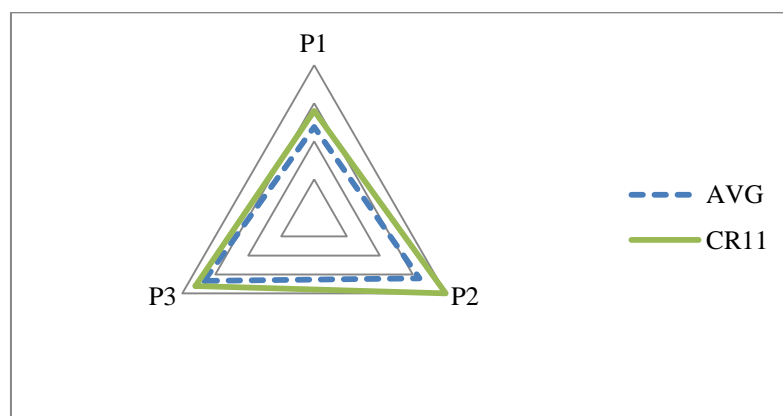
- **CR10 vs. AVG Scholarship using Radar Plots**



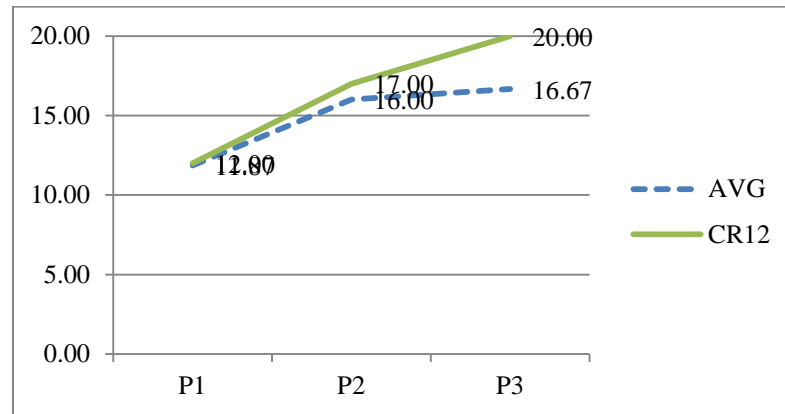
- **CR11 vs. AVG Scholarship Emotion Line (EL)**



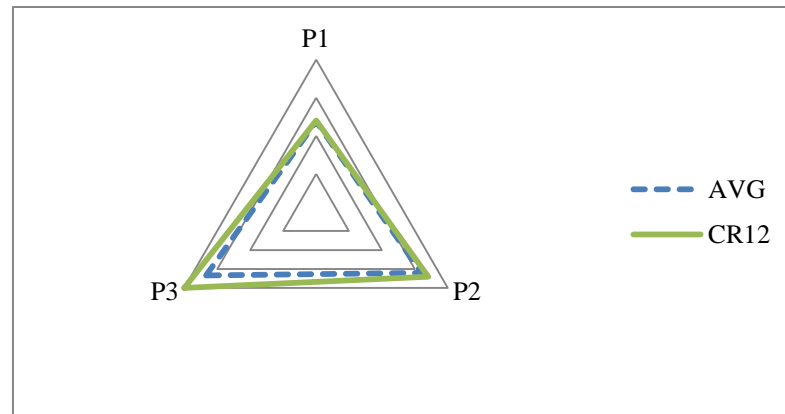
- **CR11 vs. AVG Scholarship using Radar Plots**



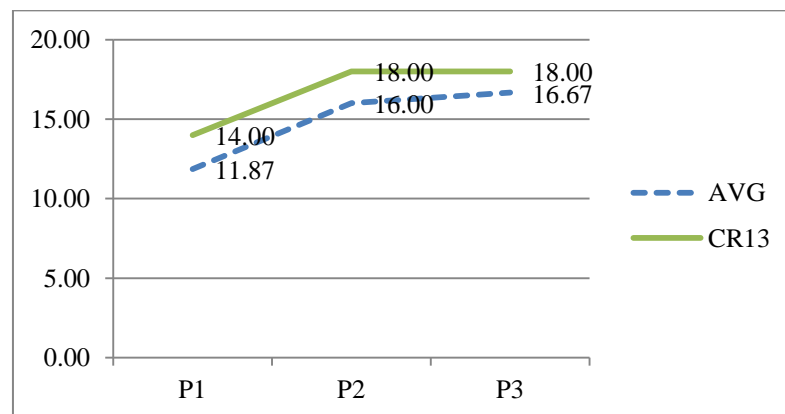
- **CR12 vs. AVG Scholarship Emotion Line (EL)**



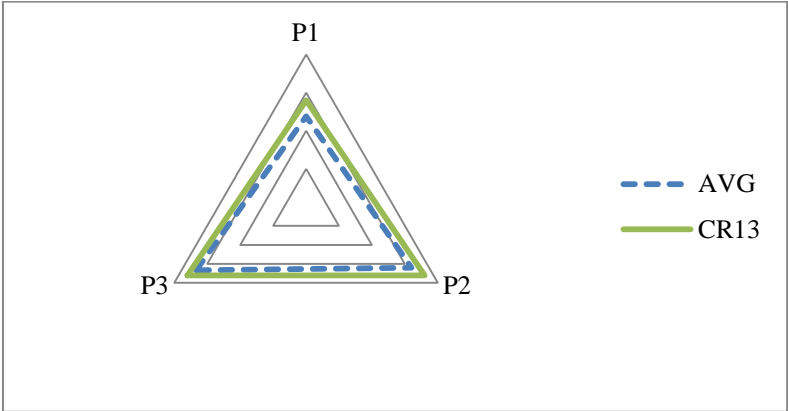
- **CR12 vs. AVG Scholarship using Radar Plots**



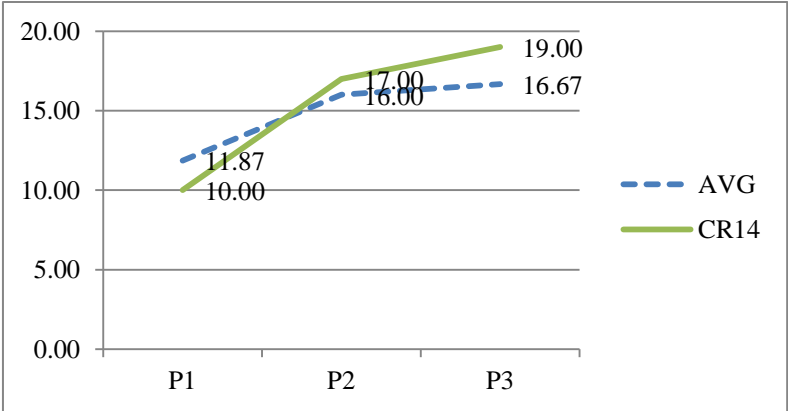
- **CR13 vs. AVG Scholarship Emotion Line (EL)**



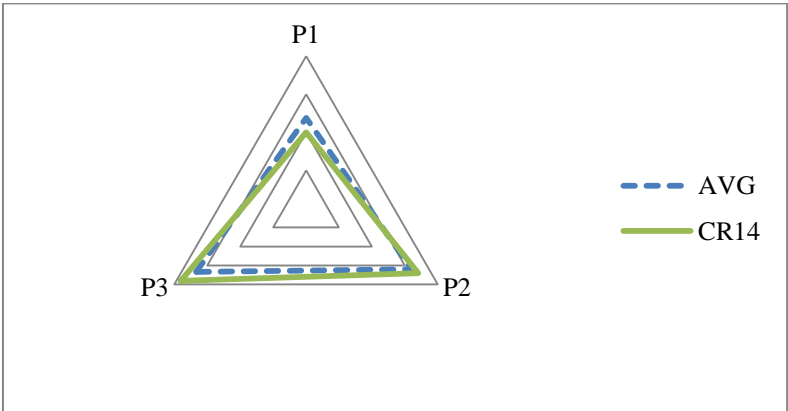
• **CR13 vs. AVG Scholarship using Radar Plots**



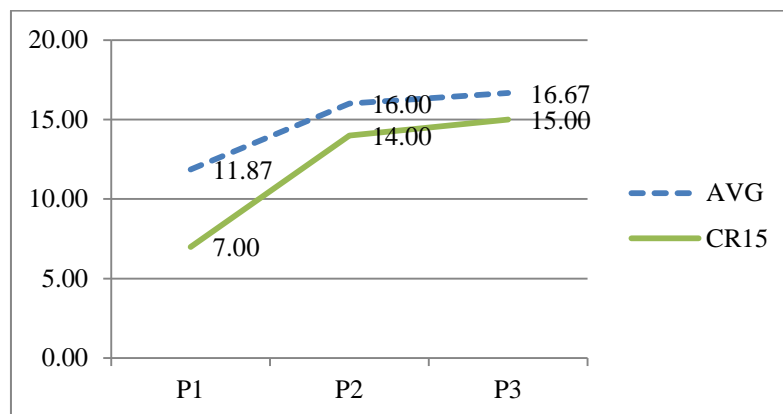
• **CR14 vs. AVG Scholarship Emotion Line (EL)**



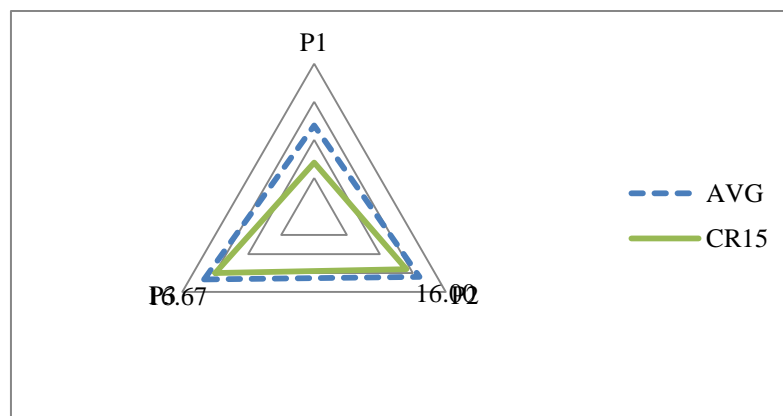
• **CR14 vs. AVG Scholarship using Radar Plots**



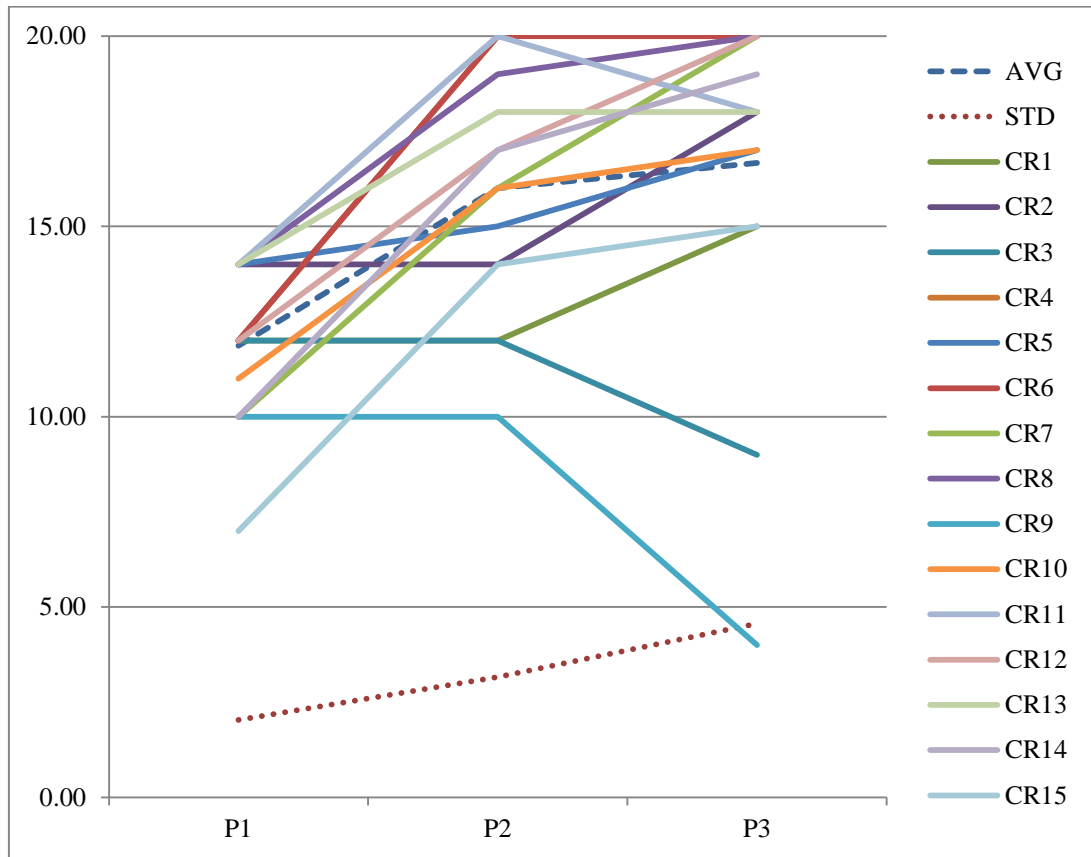
- **CR15 vs. AVG Scholarship Emotion Line (EL)**



- **CR15 vs. AVG Scholarship using Radar Plots**



• **CR vs. AVG vs. STD Scholarship Emotion Line (EL)**



## K. Full analysis for Traffic violations using iMGov4C

- Traffic Violations iMGov4C Summary**

<b>e-Service</b>	Traffic violations		
<b>Definition</b>	Using the organization website to query traffic violations		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	4		
<b>Results</b>	(P1) (P2) (P3)	AVG= 47.50	STD= 04.36
	(P1) Placing an Order	AVG= 16.75	STD= 01.89
	(P2) Processing an Order	AVG= 14.50	STD= 02.65
	(P3) Delivering an Order	AVG= 16.25	STD= 02.99
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (Traffic violations)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	2	1	1
C/P1/A1/F1	4	0	0
C/P1/A1/F2	4	0	0
C/P1/A1/F3	4	0	0
C/P1/A2/F1	4	0	0
C/P1/A2/F2	3	0	1
C/P1/A2/F3	4	0	0
C/P1/A3/F1	2	0	2
C/P1/A3/F2	2	0	2
C/P1/A3/F3	4	0	0

- Total number of Citizens' Responses per Phase 1 (P1) (Traffic violations)**

	Results	Out of	Notes
# of R/P	4	4	
# of 2 (Positive)/P	33	40	10 Factors * 4 Responses
# of 1 (Neutral)/P	1	4	1 Factor * 4 Responses
# of 0 (Negative)/P	6	40	10 Factors * 4 Responses



- **Number of Citizens' Responses per Factor for Phase 2 (P2) (Traffic violations)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	2	2	0
C/P2/A1/F1	4	0	0
C/P2/A1/F2	4	0	0
C/P2/A1/F3	2	0	2
C/P2/A2/F1	1	3	0
C/P2/A2/F2	2	1	1
C/P2/A2/F3	0	0	4
C/P2/A3/F1	4	0	0
C/P2/A3/F2	2	2	0
C/P2/A3/F3	4	0	0

- **Total number of Citizens' Responses for Phase 2 (P2) (Traffic violations)**

	Results	Out of
# of R/P	4	4
# of 2 (Positive)/P	25	40
# of 1 (Neutral)/P	8	16
# of 0 (Negative)/P	7	40

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (Traffic violations)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	4	0	0
C/P3/A1/F1	4	0	0
C/P3/A1/F2	2	0	2
C/P3/A1/F3	4	0	0
C/P3/A2/F1	1	3	0
C/P3/A2/F2	4	0	0
C/P3/A2/F3	4	0	0
C/P3/A3/F1	2	0	2
C/P3/A3/F2	4	0	0
C/P3/A3/F3	2	0	2

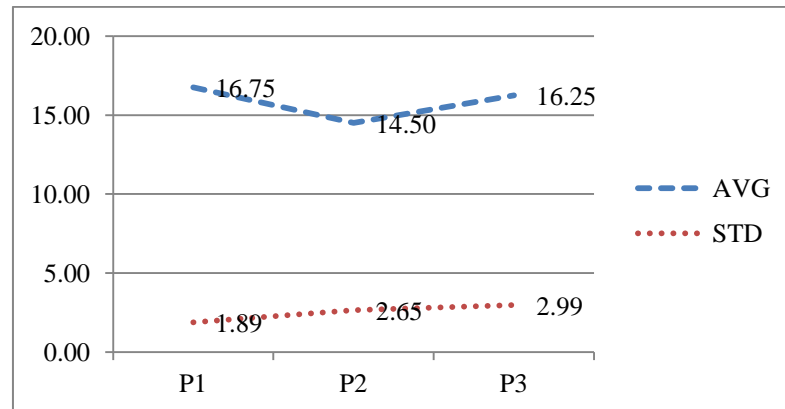
- **Total number of Citizens' Responses for Phase 3 (P3) (Traffic violations)**

	Results	Out of
# of R/P	4	4
# of 2 (Positive)/P	31	40
# of 1 (Neutral)/P	3	16
# of 0 (Negative)/P	6	40

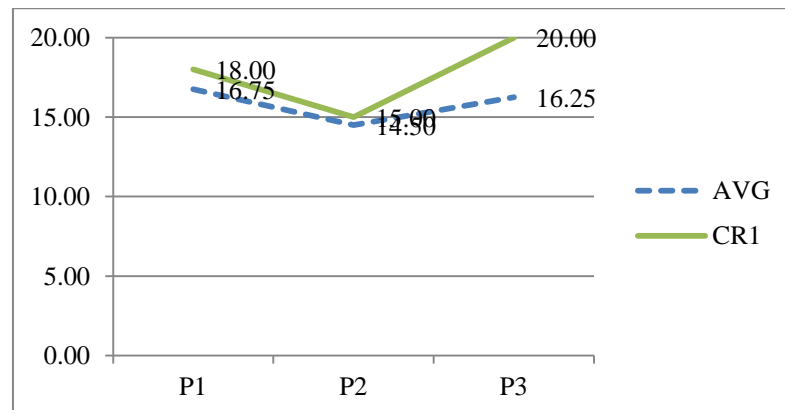
- **Total number of Citizens' Responses for (Traffic violations)**

	Results	Out of
# of R/C	4	4
# of 2 (Positive)/C	89	120
# of 1 (Neutral)/C	12	36
# of 0 (Negative)/C	19	120

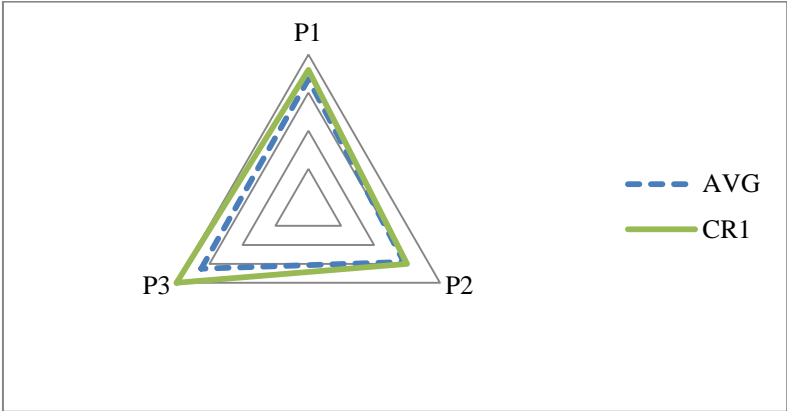
- **AVG, and STD for Three Phases P1, P2, and P3 (Traffic violations)**



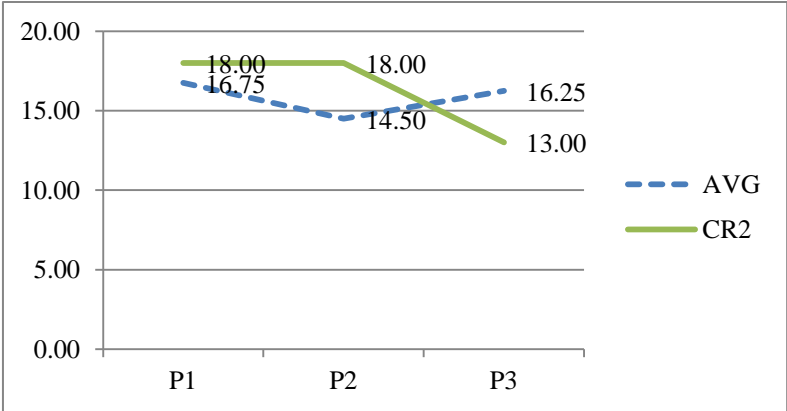
- **CR1 vs. AVG Traffic violations Emotion Line (EL)**



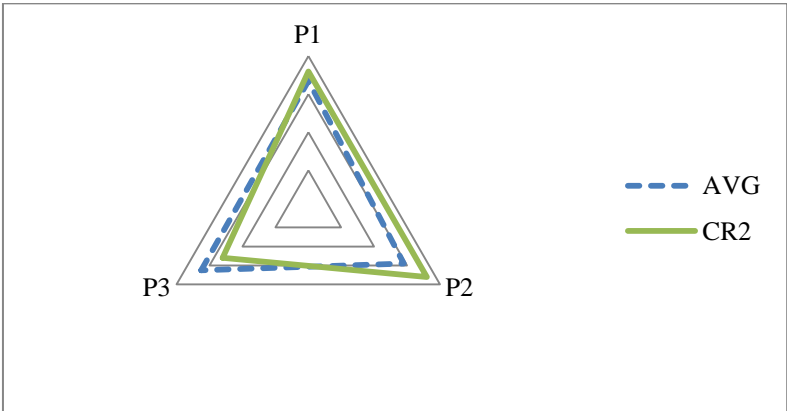
- **CR1 vs. AVG Traffic violations using Radar Plots**



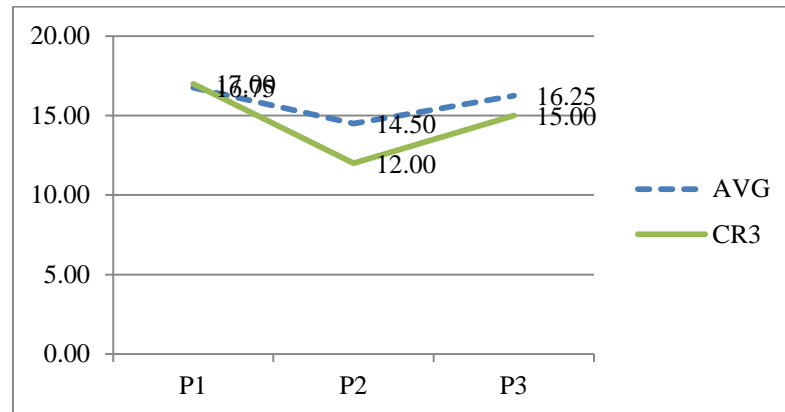
- **CR2 vs. AVG Traffic violations Emotion Line (EL)**



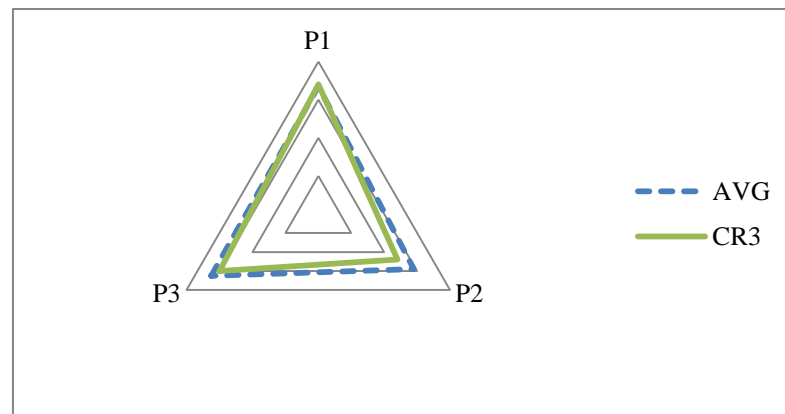
- **CR2 vs. AVG Traffic violations using Radar Plots**



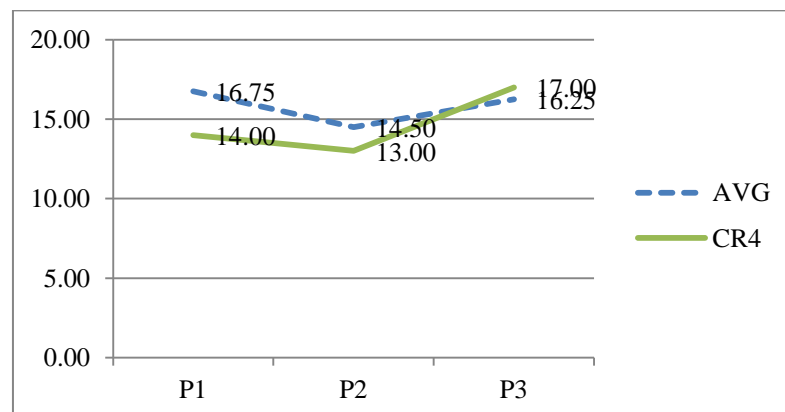
- **CR3 vs. AVG Traffic violations Emotion Line (EL)**



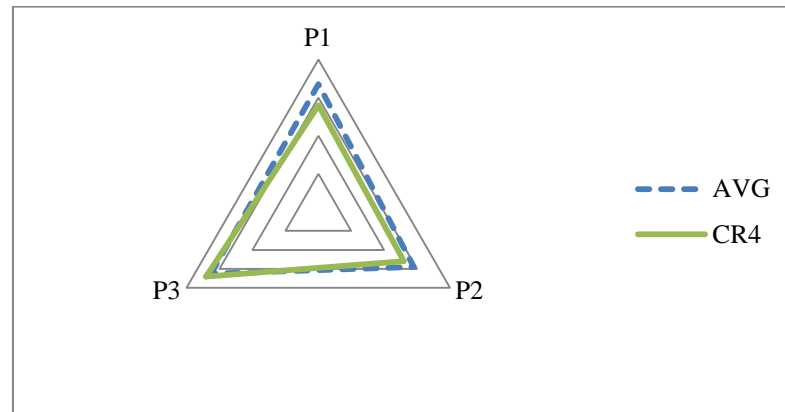
- **CR3 vs. AVG Traffic violations using Radar Plots**



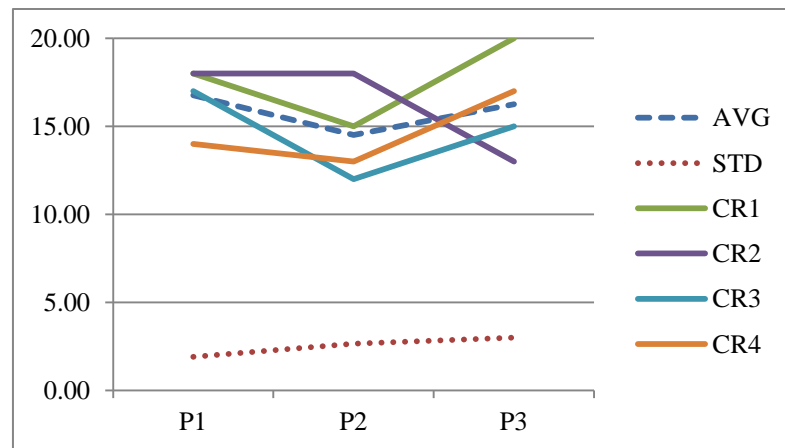
- **CR4 vs. AVG Traffic violations Emotion Line (EL)**



- **CR4 vs. AVG Traffic violations using Radar Plots**



- **CR vs. AVG vs. STD Traffic violations Emotion Line (EL)**



## L. Full analysis for Loan request using iMGov4C

- Loan Request iMGov4C Summary

<b>e-Service</b>	Loan request		
<b>Definition</b>	Using the organization website to apply for a loan provided by the government to citizens		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	4		
<b>Results</b>	(P1) (P2) (P3)	AVG= 32.75	STD= 08.18
	(P1) Placing an Order	AVG= 10.75	STD= 04.27
	(P2) Processing an Order	AVG= 10.50	STD= 02.38
	(P3) Delivering an Order	AVG= 11.50	STD= 02.08
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (Loan request)

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	3	1	0
C/P1/A1/F1	3	0	1
C/P1/A1/F2	2	0	2
C/P1/A1/F3	3	0	1
C/P1/A2/F1	2	0	2
C/P1/A2/F2	2	0	2
C/P1/A2/F3	2	0	2
C/P1/A3/F1	2	0	2
C/P1/A3/F2	0	0	4
C/P1/A3/F3	2	0	2

- Total number of Citizens' Responses per Phase 1 (P1) (Loan request)

	Results	Out of	Notes
# of R/P	4	4	
# of 2 (Positive)/P	21	40	10 Factors * 4 Responses
# of 1 (Neutral)/P	1	4	1 Factor * 4 Responses
# of 0 (Negative)/P	18	40	10 Factors * 4 Responses

- **Number of Citizens' Responses per Factor for Phase 2 (P2) (Loan request)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	0	1	3
C/P2/A1/F1	4	0	0
C/P2/A1/F2	4	0	0
C/P2/A1/F3	4	0	0
C/P2/A2/F1	0	1	3
C/P2/A2/F2	1	3	0
C/P2/A2/F3	0	0	4
C/P2/A3/F1	4	0	0
C/P2/A3/F2	0	1	3
C/P2/A3/F3	1	0	3

- **Total number of Citizens' Responses for Phase 2 (P2) (Loan request)**

	Results	Out of
# of R/P	4	4
# of 2 (Positive)/P	18	40
# of 1 (Neutral)/P	6	16
# of 0 (Negative)/P	16	40

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (Loan request)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	0	1	3
C/P3/A1/F1	3	0	1
C/P3/A1/F2	0	0	4
C/P3/A1/F3	2	1	1
C/P3/A2/F1	0	2	2
C/P3/A2/F2	4	0	0
C/P3/A2/F3	4	0	0
C/P3/A3/F1	4	0	0
C/P3/A3/F2	4	0	0
C/P3/A3/F3	0	0	4

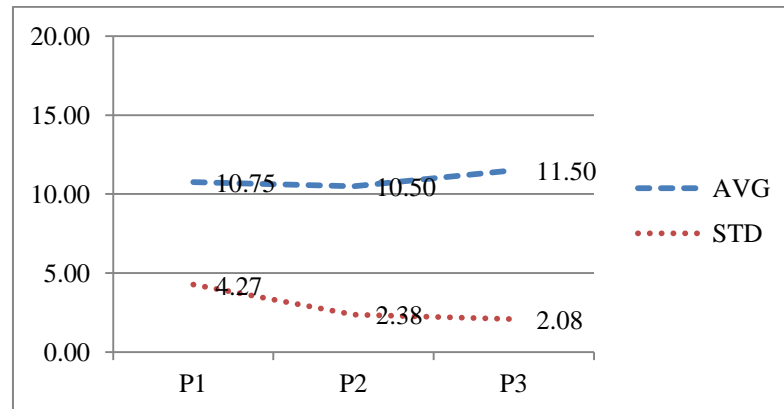
- **Total number of Citizens' Responses for Phase 3 (P3) (Loan request)**

	Results	Out of
# of R/P	4	4
# of 2 (Positive)/P	21	40
# of 1 (Neutral)/P	4	16
# of 0 (Negative)/P	15	40

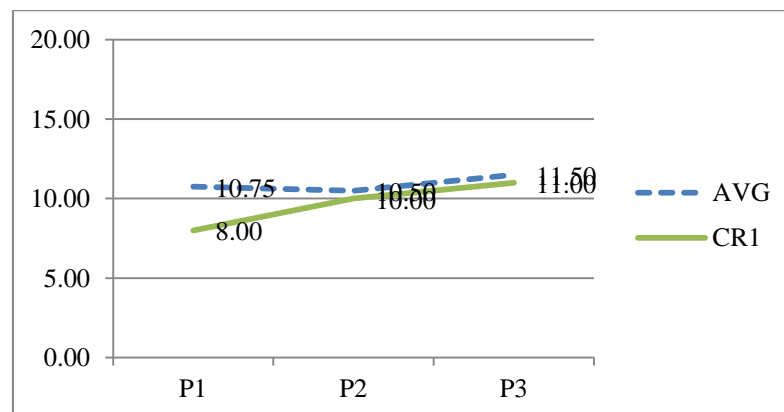
- **Total number of Citizens' Responses for (Loan request)**

	Results	Out of
# of R/C	4	4
# of 2 (Positive)/C	60	120
# of 1 (Neutral)/C	11	36
# of 0 (Negative)/C	49	120

- **AVG, and STD for Three Phases P1, P2, and P3 (Loan request)**

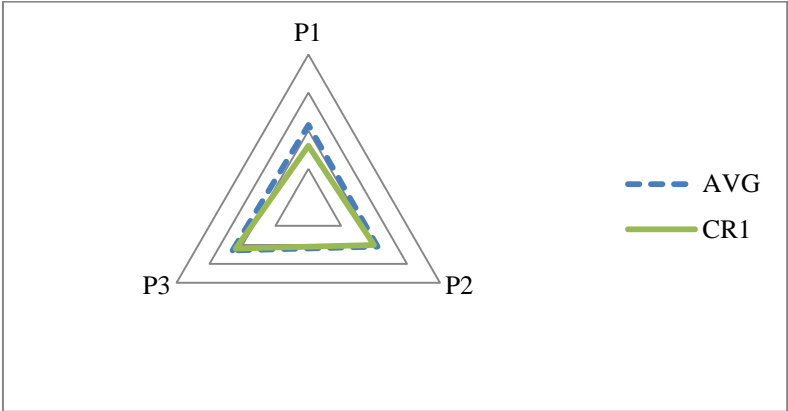


- **CR1 vs. AVG Loan request Emotion Line (EL)**

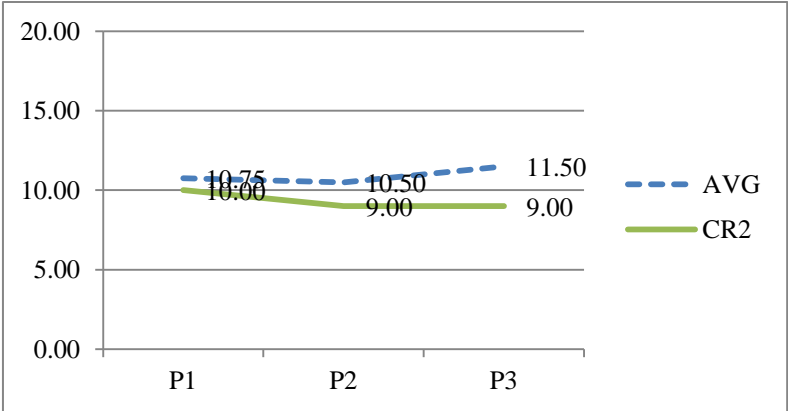




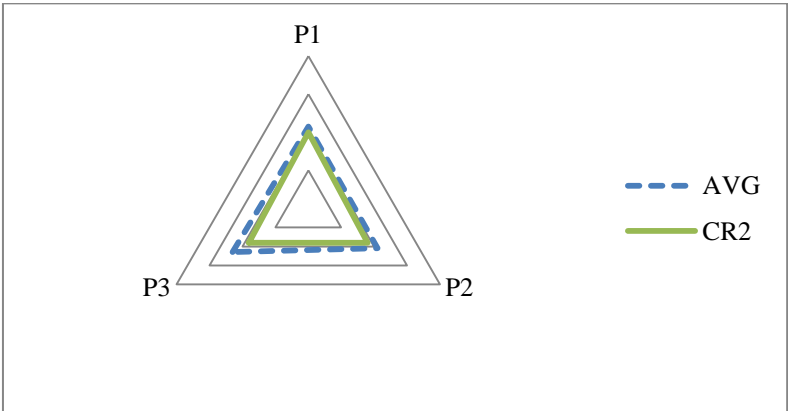
• **CR1 vs. AVG Loan request using Radar Plots**



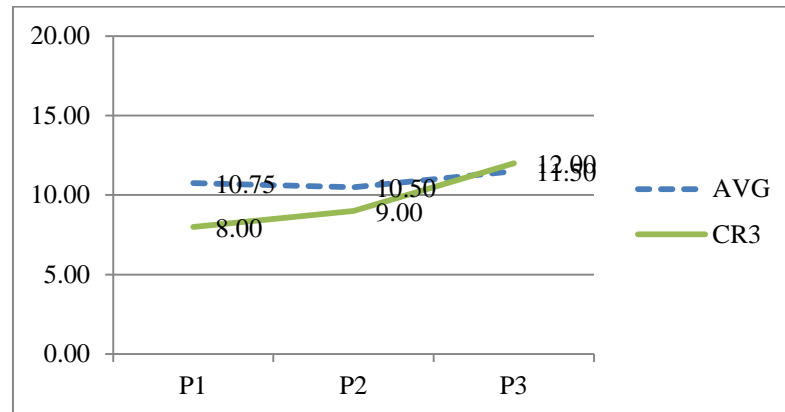
• **CR2 vs. AVG Loan request Emotion Line (EL)**



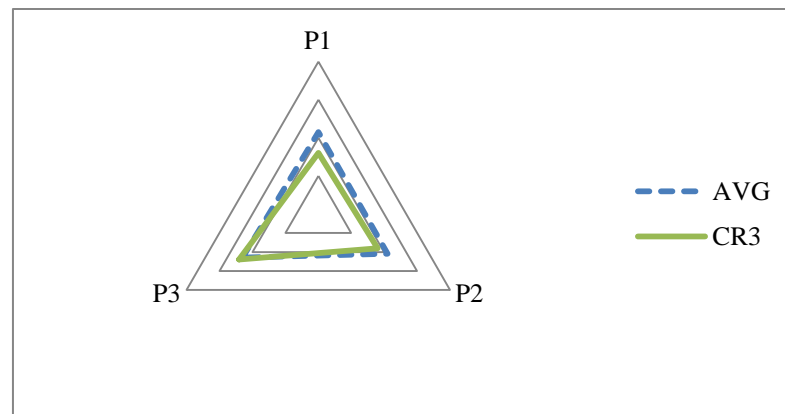
• **CR2 vs. AVG Loan request using Radar Plots**



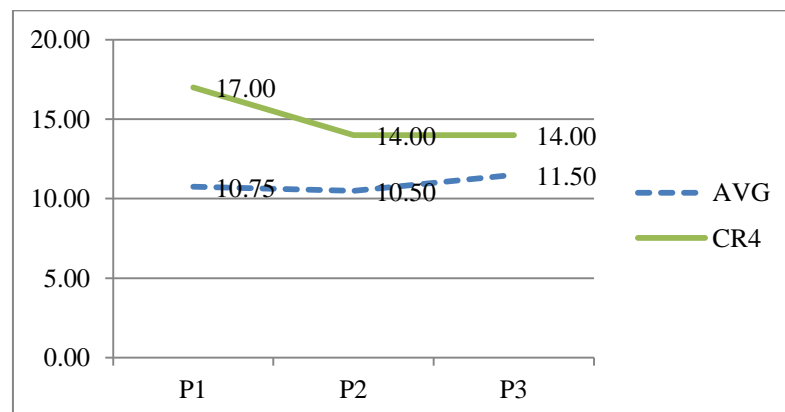
- **CR3 vs. AVG Loan request Emotion Line (EL)**



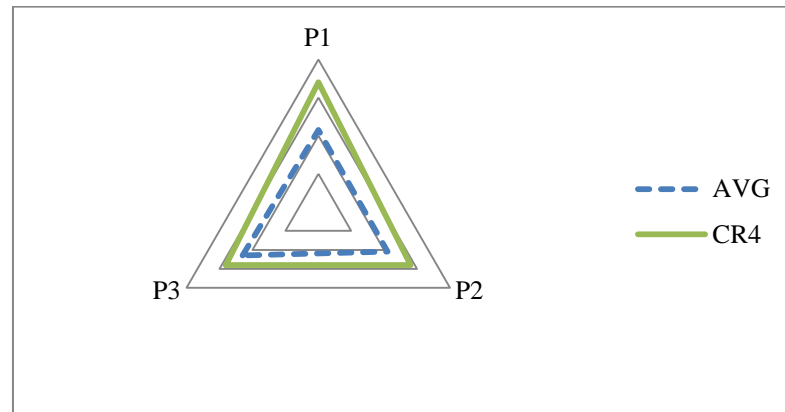
- **CR3 vs. AVG Loan request using Radar Plots**



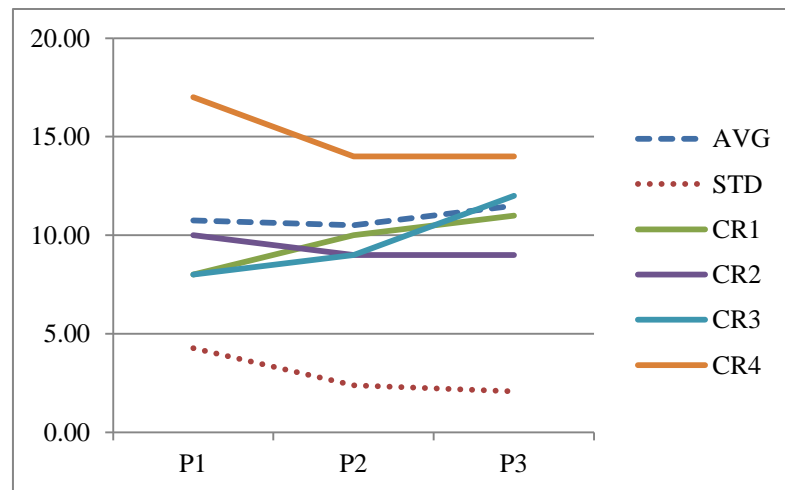
- **CR4 vs. AVG Loan request Emotion Line (EL)**



- **CR4 vs. AVG Loan request using Radar Plots**



- **CR vs. AVG vs. STD Loan request Emotion Line (EL)**



## M.Full analysis for Job application using iMGov4C

- Job Application iMGov4C Summary**

<b>e-Service</b>	Job application		
<b>Definition</b>	Using the organization website to help citizens who do not have a job to find one by offering monthly allowance for one year plus training until they find a suitable job		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	7		
<b>Results</b>	(P1) (P2) (P3)	AVG= 44.17	STD= 11.55
	(P1) Placing an Order	AVG= 10.83	STD= 03.13
	(P2) Processing an Order	AVG= 15.67	STD= 04.55
	(P3) Delivering an Order	AVG= 17.67	STD= 04.80
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (Job application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	5	1	1
C/P1/A1/F1	7	0	0
C/P1/A1/F2	1	0	6
C/P1/A1/F3	3	0	4
C/P1/A2/F1	7	0	0
C/P1/A2/F2	6	0	1
C/P1/A2/F3	5	0	2
C/P1/A3/F1	0	0	7
C/P1/A3/F2	0	0	7
C/P1/A3/F3	3	0	4

- Total number of Citizens' Responses per Phase 1 (P1) (Job application)**

	Results	Out of	Notes
# of R/P	7	7	
# of 2 (Positive)/P	37	70	10 Factors * 7 Responses
# of 1 (Neutral)/P	1	7	1 Factor * 7 Responses
# of 0 (Negative)/P	32	70	10 Factors * 7 Responses

- **Number of Citizens' Responses per Factor for Phase 2 (P2) (Job application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	5	1	1
C/P2/A1/F1	6	0	1
C/P2/A1/F2	7	0	0
C/P2/A1/F3	7	0	0
C/P2/A2/F1	6	0	1
C/P2/A2/F2	2	5	0
C/P2/A2/F3	4	0	3
C/P2/A3/F1	6	0	1
C/P2/A3/F2	3	3	1
C/P2/A3/F3	6	0	1

- **Total number of Citizens' Responses for Phase 2 (P2) (Job application)**

	Results	Out of
# of R/P	7	7
# of 2 (Positive)/P	52	70
# of 1 (Neutral)/P	9	28
# of 0 (Negative)/P	9	70

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (Job application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	5	1	1
C/P3/A1/F1	6	0	1
C/P3/A1/F2	6	0	1
C/P3/A1/F3	7	0	0
C/P3/A2/F1	5	1	1
C/P3/A2/F2	6	0	1
C/P3/A2/F3	6	0	1
C/P3/A3/F1	7	0	0
C/P3/A3/F2	7	0	0
C/P3/A3/F3	7	0	0

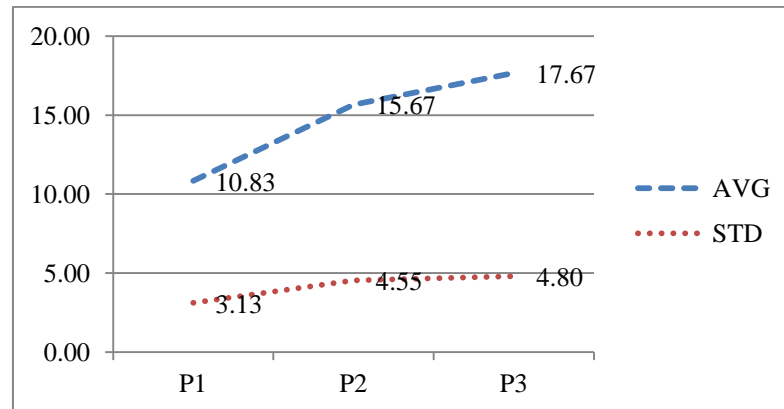
- **Total number of Citizens' Responses for Phase 3 (P3) (Job application)**

	Results	Out of
# of R/P	7	7
# of 2 (Positive)/P	62	70
# of 1 (Neutral)/P	2	28
# of 0 (Negative)/P	6	70

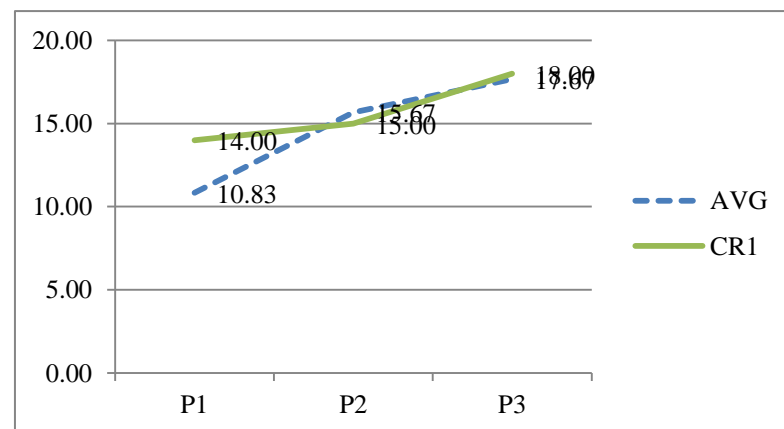
- **Total number of Citizens' Responses for (Job application)**

	Results	Out of
# of R/C	7	7
# of 2 (Positive)/C	151	210
# of 1 (Neutral)/C	12	63
# of 0 (Negative)/C	47	210

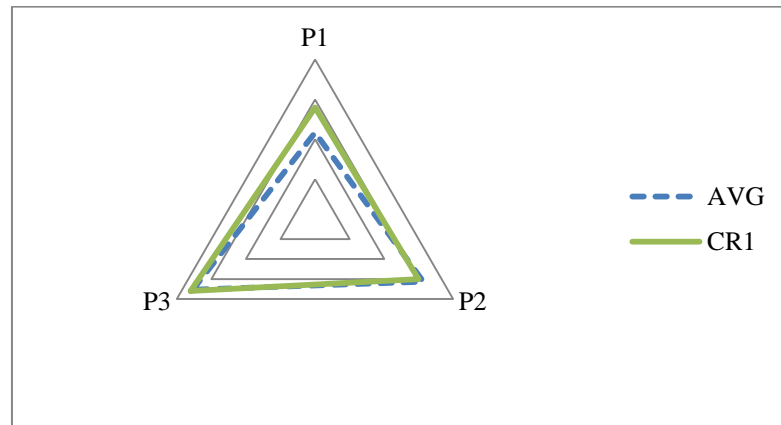
- **AVG, and STD for Three Phases P1, P2, and P3 (Job application)**



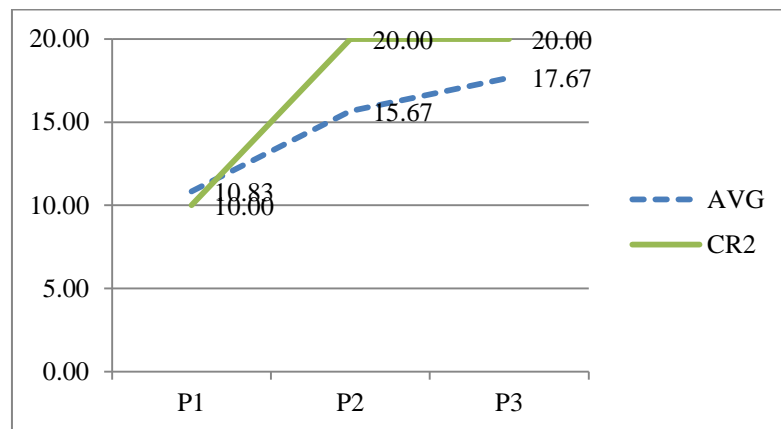
- **CR1 vs. AVG Job application Emotion Line (EL)**



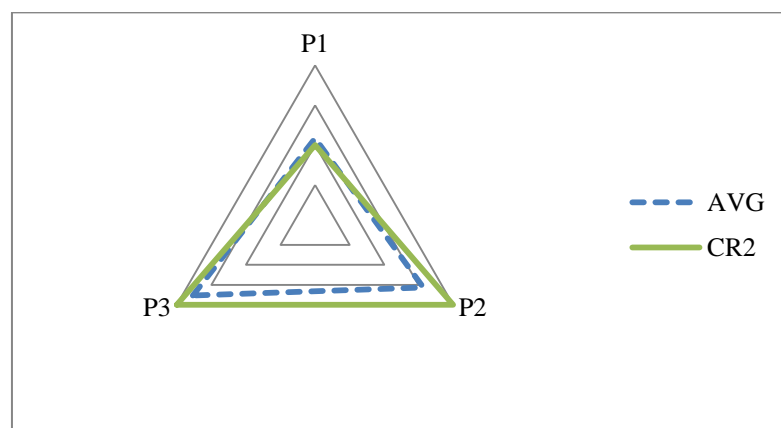
- **CR1 vs. AVG Job application using Radar Plots**



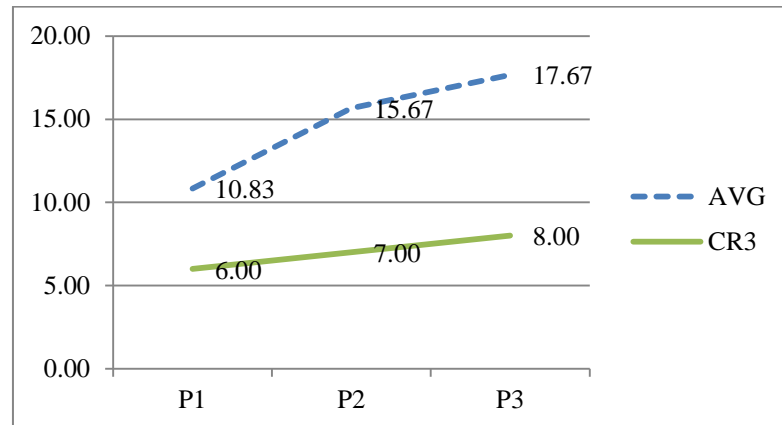
- **CR2 vs. AVG Job application Emotion Line (EL)**



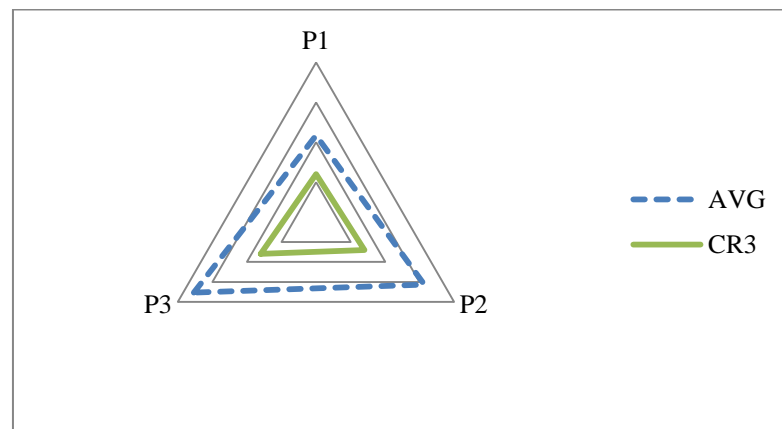
- **CR2 vs. AVG Job application using Radar Plots**



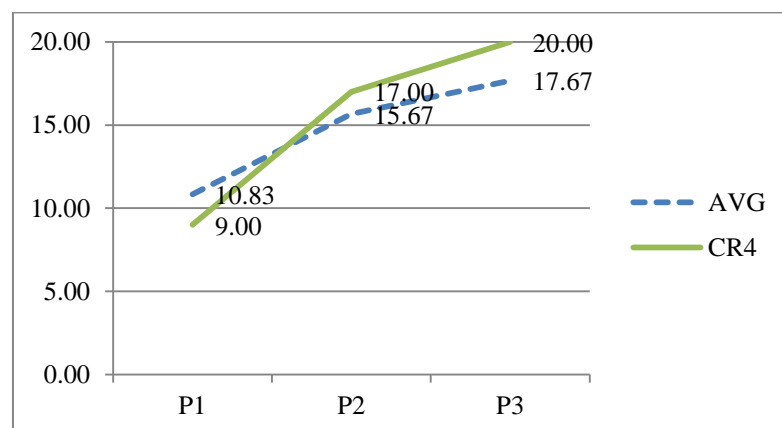
- **CR3 vs. AVG Job application Emotion Line (EL)**



- **CR3 vs. AVG Job application using Radar Plots**

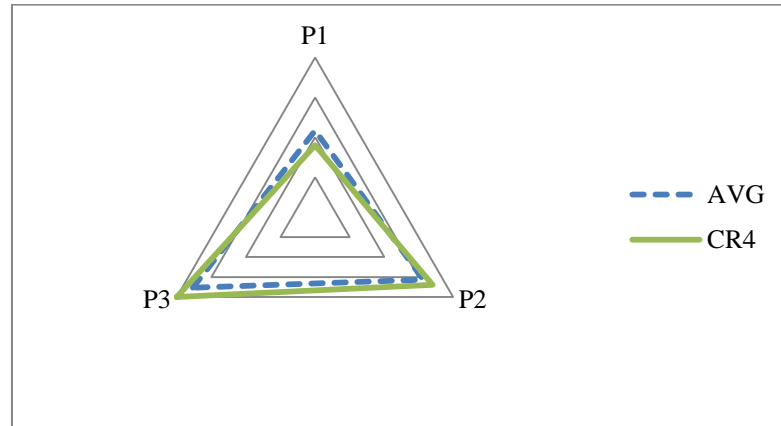


- **CR4 vs. AVG Job application Emotion Line (EL)**

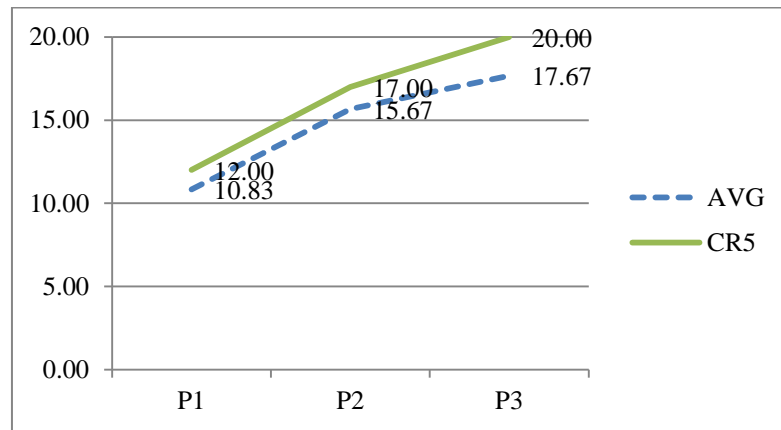




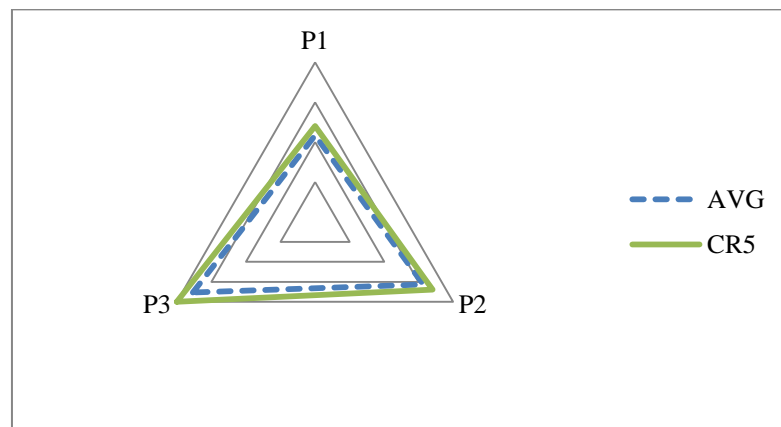
- **CR4 vs. AVG Job application using Radar Plots**



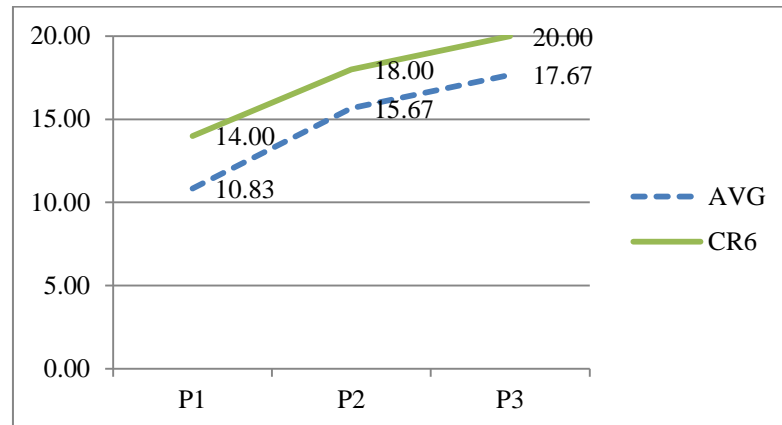
- **CR5 vs. AVG Job application Emotion Line (EL)**



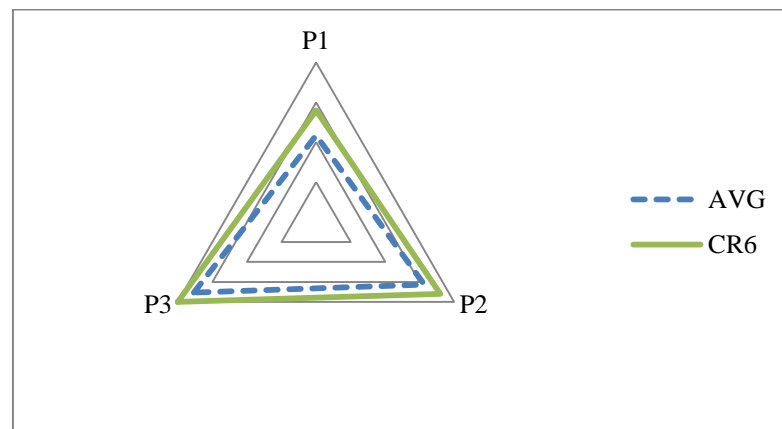
- **CR5 vs. AVG Job application using Radar Plots**



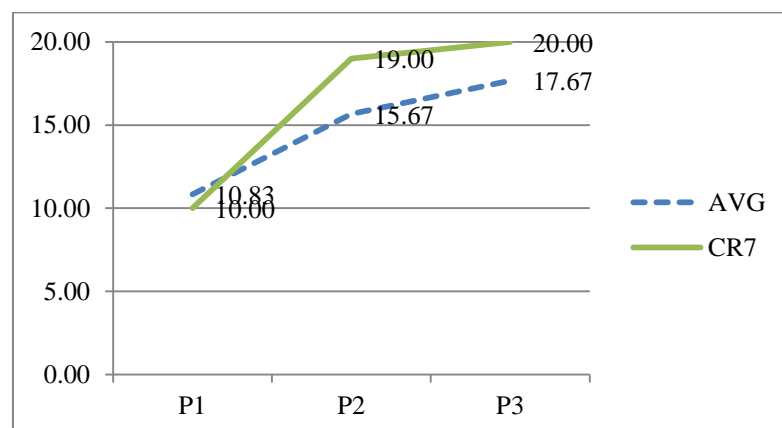
- **CR6 vs. AVG Job application Emotion Line (EL)**



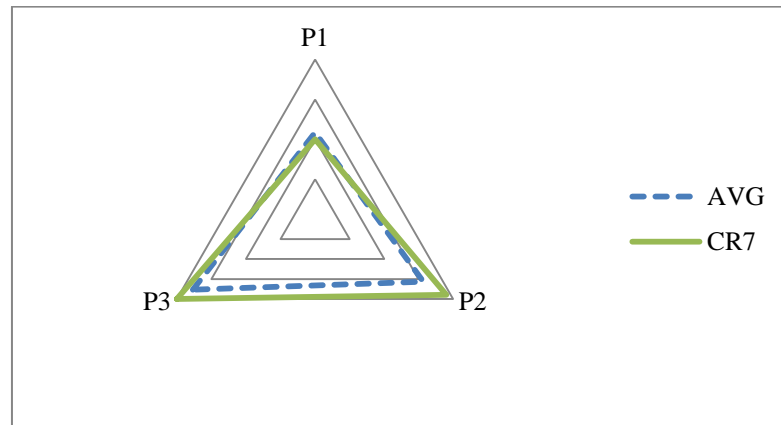
- **CR6 vs. AVG Job application using Radar Plots**



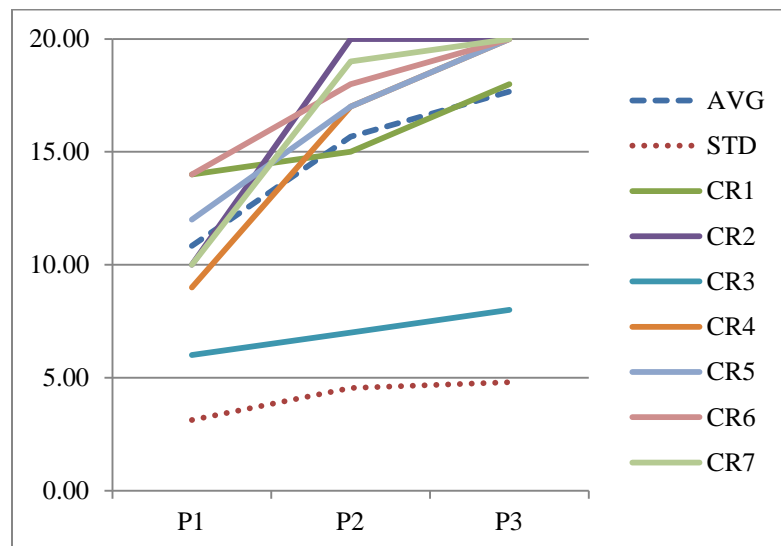
- **CR7 vs. AVG Job application Emotion Line (EL)**



- **CR7 vs. AVG Job application using Radar Plots**



- **CR vs. AVG vs. STD Job application Emotion Line (EL)**



## N. Full analysis for e-Visa using iMGov4C

- e-Visa iMGov4C Summary**

<b>e-Service</b>	e-Visa		
<b>Definition</b>	Using the organization website to apply for family visit visas for first degree relatives		
<b>Evaluation Model</b>	iMGov4C		
<b>Number of Responses</b>	9		
<b>Results</b>	(P1) (P2) (P3)	AVG= 42.78	STD= 12.18
	(P1) Placing an Order	AVG= 14.33	STD= 04.12
	(P2) Processing an Order	AVG= 13.56	STD= 04.39
	(P3) Delivering an Order	AVG= 14.89	STD= 04.62
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4C Average out of 60 iMGov4C/P1 Average out of 20 iMGov4C/P2 Average out of 20 iMGov4C/P3 Average out of 20		

- Number of Citizens' Responses per Factor for Phase 1 (e-Visa)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P1/F0	3	5	1
C/P1/A1/F1	9	0	0
C/P1/A1/F2	2	0	7
C/P1/A1/F3	6	0	3
C/P1/A2/F1	3	0	6
C/P1/A2/F2	9	0	0
C/P1/A2/F3	9	0	0
C/P1/A3/F1	9	0	0
C/P1/A3/F2	9	0	0
C/P1/A3/F3	7	0	2

- Total number of Citizens' Responses per Phase 1 (P1) (e-Visa)**

	Results	Out of	Notes
# of R/P	9	9	
# of 2 (Positive)/P	66	90	10 Factors * 9 Responses
# of 1 (Neutral)/P	5	9	1 Factor * 9 Responses
# of 0 (Negative)/P	19	90	10 Factors * 9 Responses

- **Number of Citizens' Responses per Factor for Phase 2 (P2) (e-Visa)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P2/F0	4	4	1
C/P2/A1/F1	7	0	2
C/P2/A1/F2	7	0	2
C/P2/A1/F3	3	6	0
C/P2/A2/F1	3	0	6
C/P2/A2/F2	7	0	2
C/P2/A2/F3	2	7	0
C/P2/A3/F1	7	0	2
C/P2/A3/F2	2	7	0
C/P2/A3/F3	6	0	3

- **Total number of Citizens' Responses for Phase 2 (P2) (e-Visa)**

	Results	Out of
# of R/P	9	9
# of 2 (Positive)/P	48	90
# of 1 (Neutral)/P	24	36
# of 0 (Negative)/P	18	90

- **Number of Citizens' Responses per Factor for Phase 3 (P3) (e-Visa)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
C/P3/F0	5	3	1
C/P3/A1/F1	5	0	4
C/P3/A1/F2	6	2	1
C/P3/A1/F3	5	3	1
C/P3/A2/F1	9	0	0
C/P3/A2/F2	7	0	2
C/P3/A2/F3	5	0	4
C/P3/A3/F1	7	0	2
C/P3/A3/F2	5	0	4
C/P3/A3/F3	6	0	3

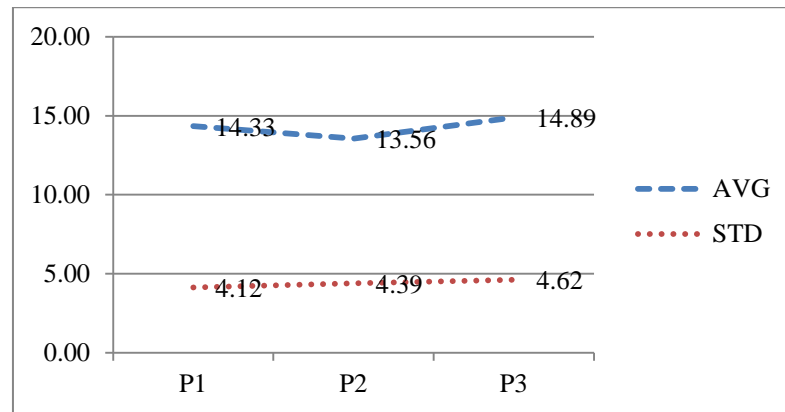
- **Total number of Citizens' Responses for Phase 3 (P3) (e-Visa)**

	Results	Out of
# of R/P	9	9
# of 2 (Positive)/P	60	90
# of 1 (Neutral)/P	8	36
# of 0 (Negative)/P	22	90

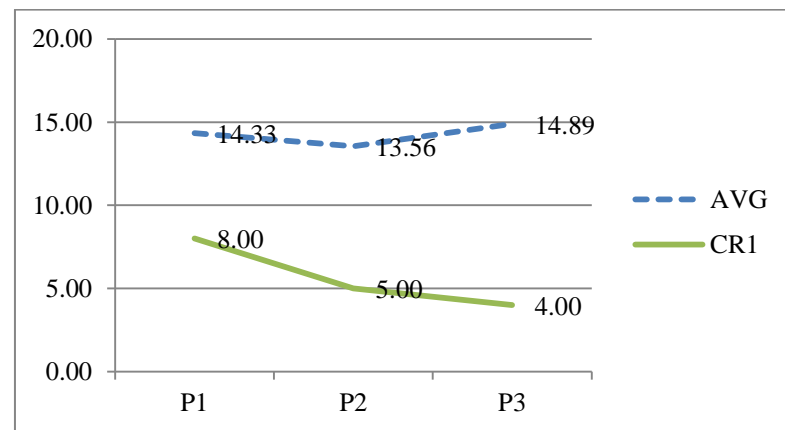
- **Total number of Citizens' Responses for (e-Visa)**

	Results	Out of
# of R/C	9	9
# of 2 (Positive)/C	174	270
# of 1 (Neutral)/C	37	81
# of 0 (Negative)/C	59	270

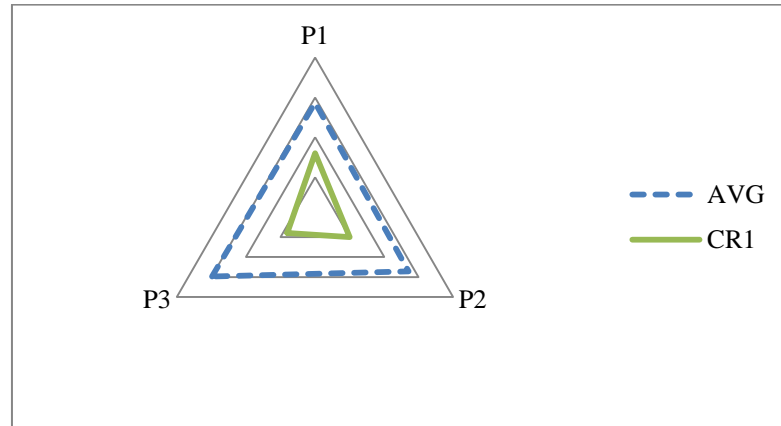
- **AVG, and STD for Three Phases P1, P2, and P3 (e-Visa)**



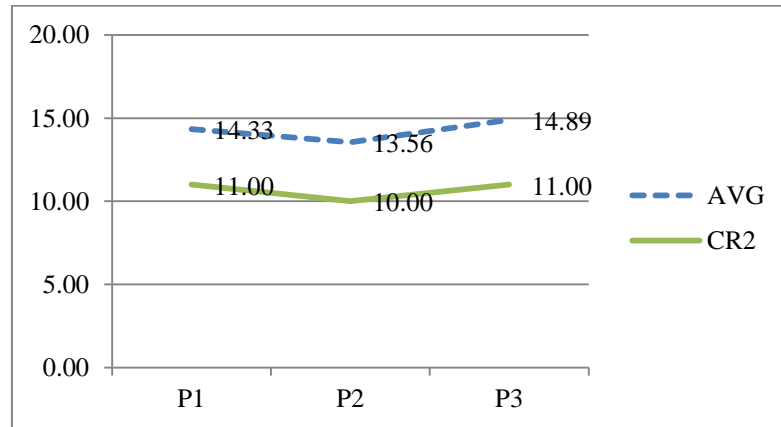
- **CR1 vs. AVG e-Visa Emotion Line (EL)**



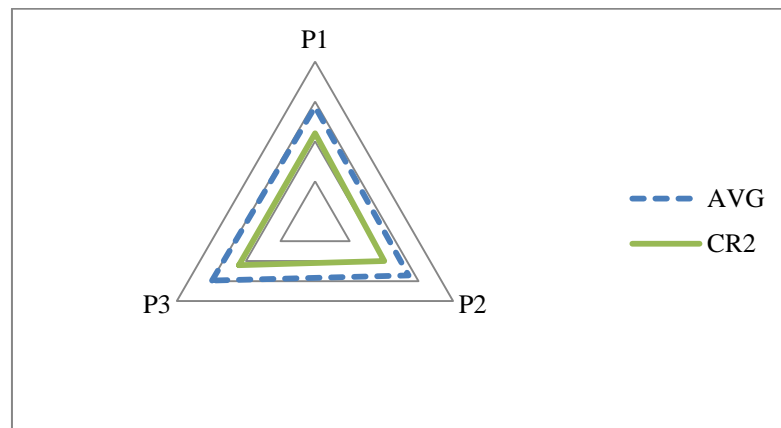
- **CR1 vs. AVG e-Visa using Radar Plots**



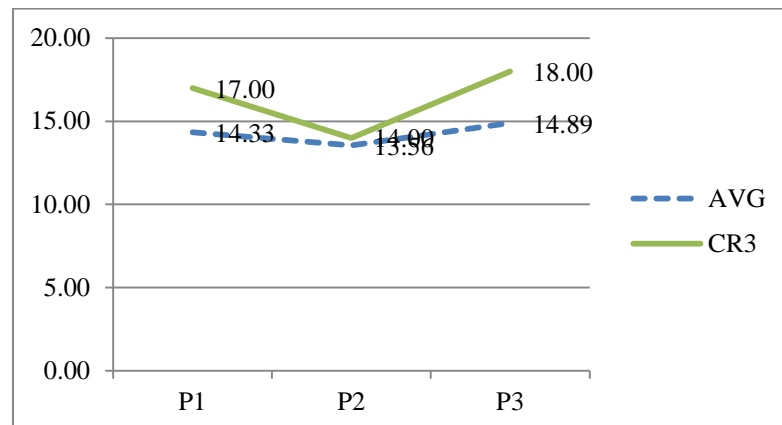
- **CR2 vs. AVG e-Visa Emotion Line (EL)**



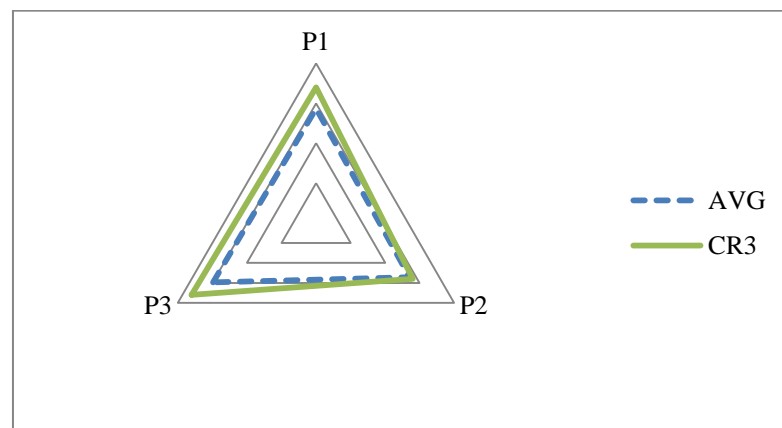
- **CR2 vs. AVG e-Visa using Radar Plots**



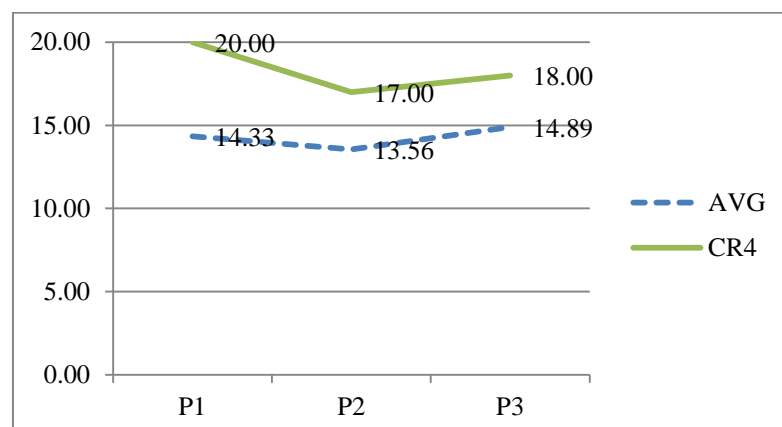
- **CR3 vs. AVG e-Visa Emotion Line (EL)**



- **CR3 vs. AVG e-Visa using Radar Plots**

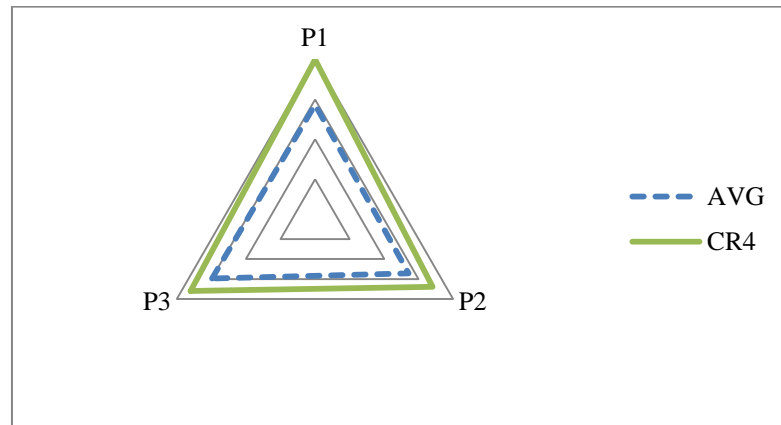


- **CR4 vs. AVG e-Visa Emotion Line (EL)**

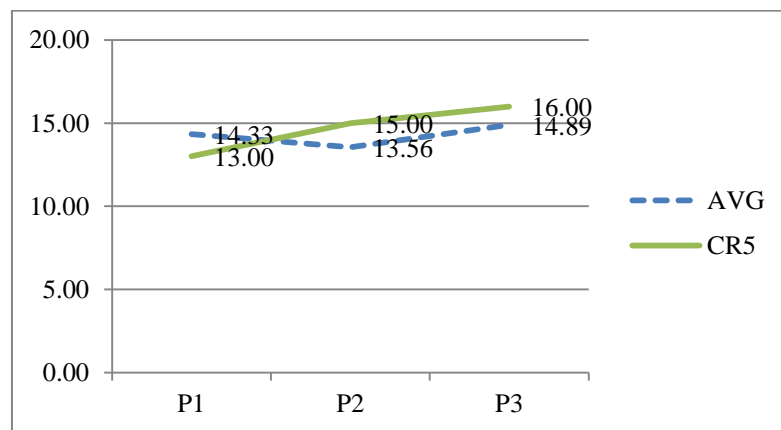




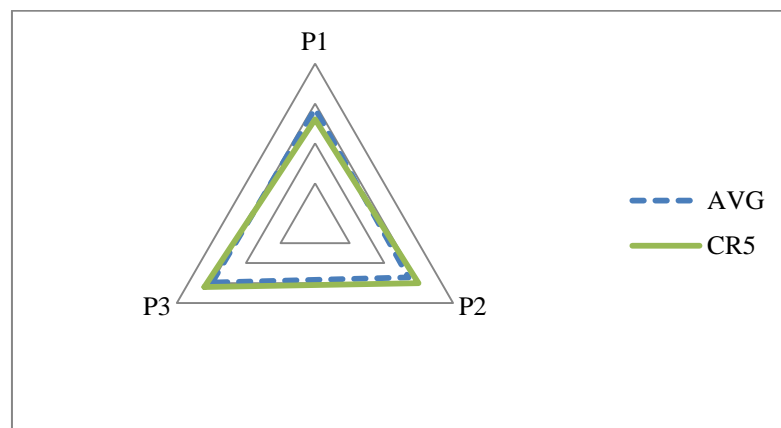
- **CR4 vs. AVG e-Visa using Radar Plots**



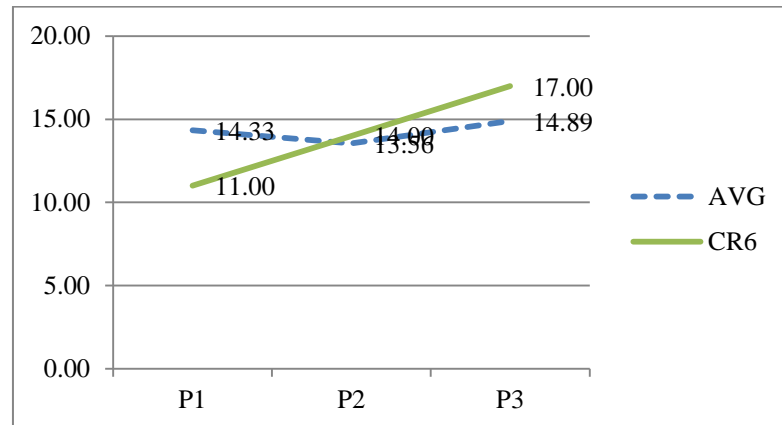
- **CR5 vs. AVG e-Visa Emotion Line (EL)**



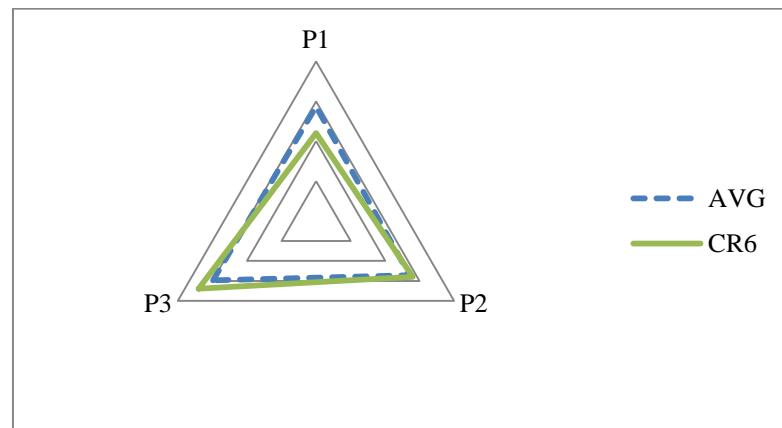
- **CR5 vs. AVG e-Visa using Radar Plots**



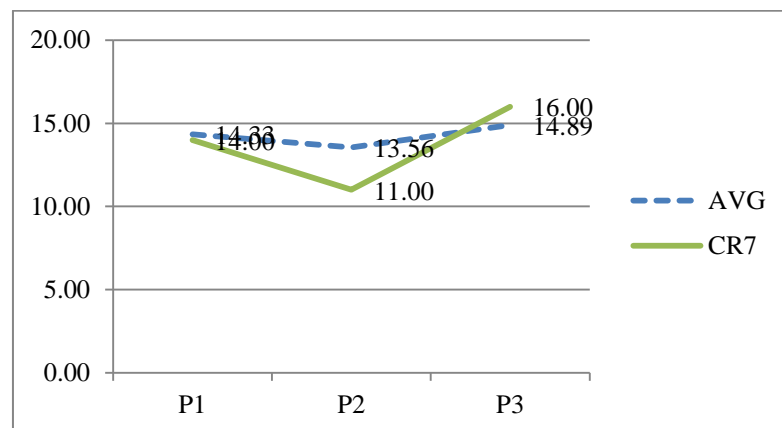
- **CR6 vs. AVG e-Visa Emotion Line (EL)**



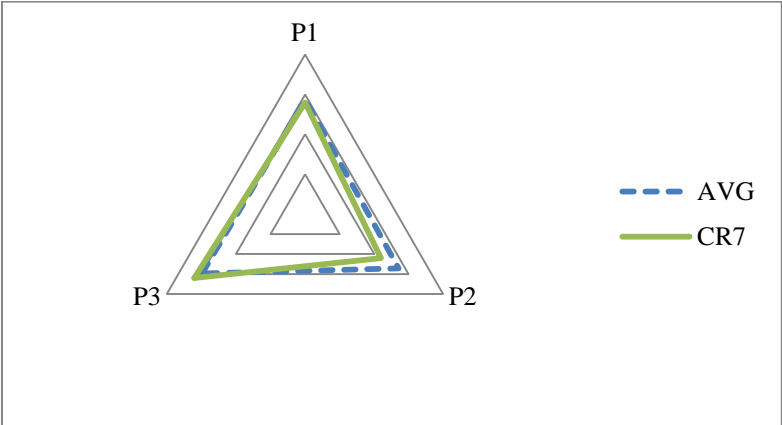
- **CR6 vs. AVG e-Visa using Radar Plots**



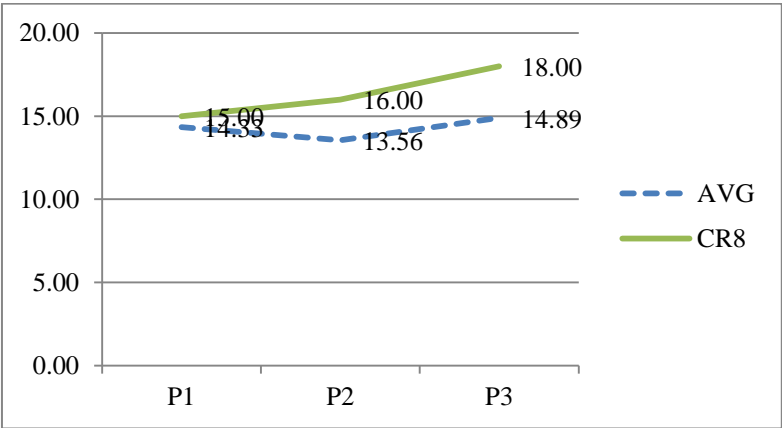
- **CR7 vs. AVG e-Visa Emotion Line (EL)**



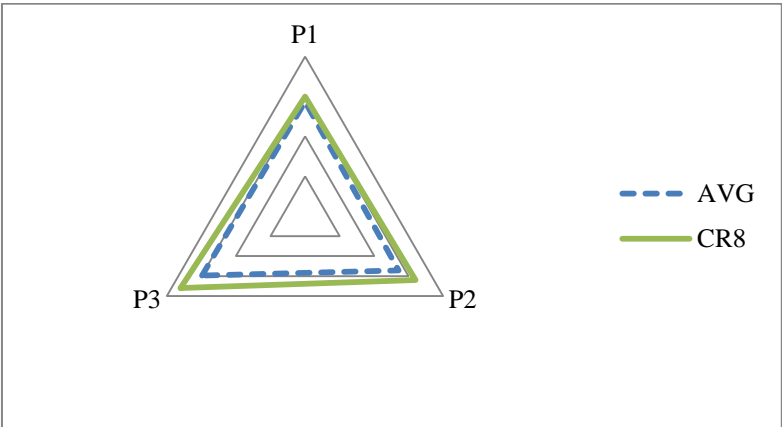
• **CR7 vs. AVG e-Visa using Radar Plots**



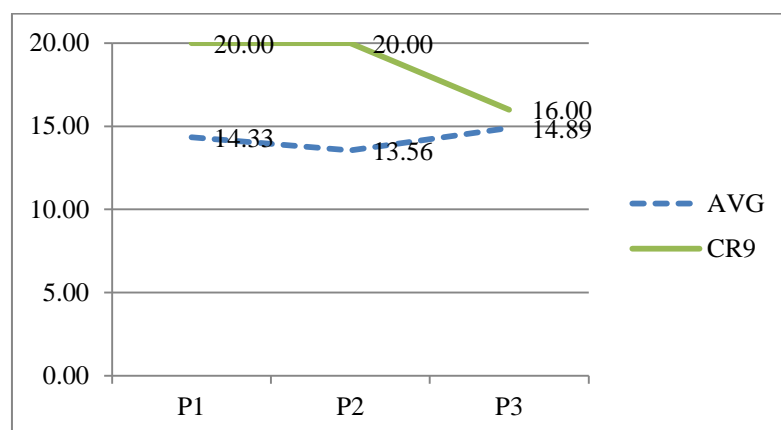
• **CR8 vs. AVG e-Visa Emotion Line (EL)**



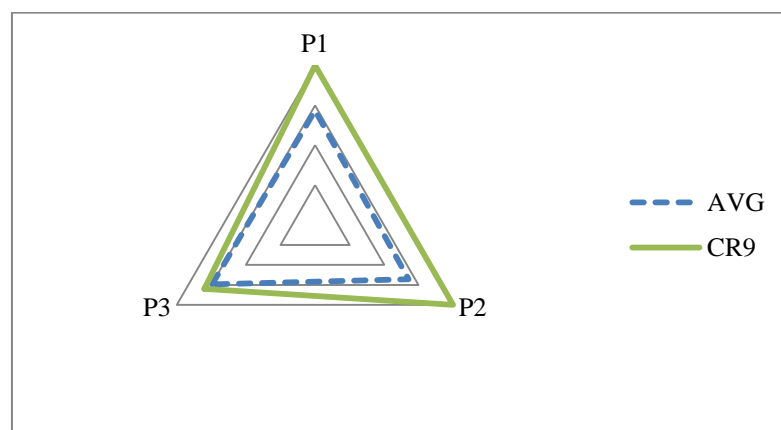
• **CR8 vs. AVG e-Visa using Radar Plots**



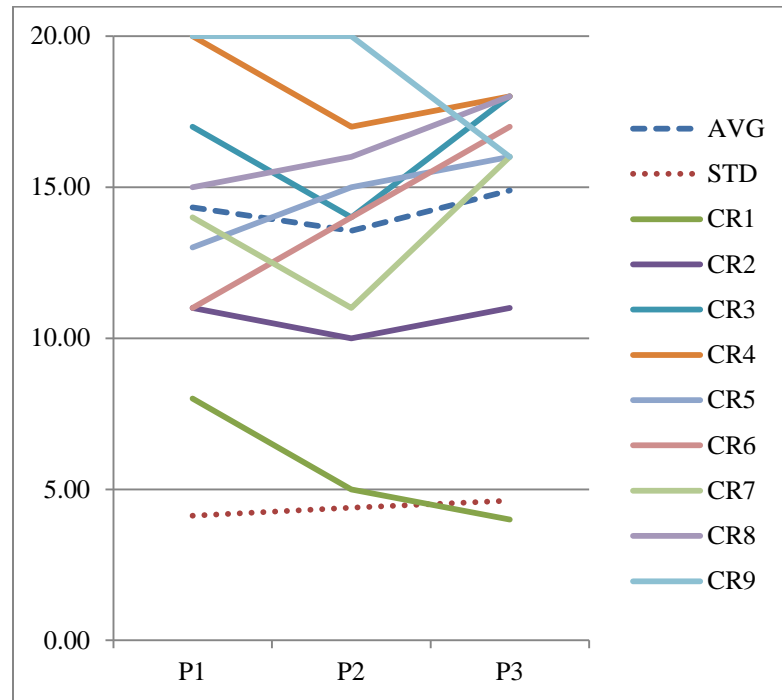
- **CR9 vs. AVG e-Visa Emotion Line (EL)**



- **CR9 vs. AVG e-Visa using Radar Plots**



- **CR vs. AVG vs. STD e-Visa Emotion Line (EL)**



## O. Collective summary of all evaluated e-Services using iMGov4E

No.	e-Service	# of Expert Response	Evaluation Results		
			(P1)	(P2)	(P3)
1	e-Passport	1	54		
			10	35	9
2	University Application	1	77		
			12	47	18
3	National ID card	1	78		
			12	47	19
4	e-Gate	1	41		
			7	24	10
5	Scholarship	1	77		
			12	49	16
6	Traffic Violations	1	85		
			18	49	18
7	Loan Request	1	57		
			13	30	14
8	Job application	1	85		
			14	51	20
9	e-Visa Services	1	45		
			9	29	7
		9			

## P. Full analysis for e-Passport using iMGov4E

- e-Passport iMGov4E Summary**

<b>e-Service</b>	e-Passport	
<b>Definition</b>	Using the government website to apply for a passport	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1 response	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 54.00
	(P1) Placing an Order	Evaluation Result = 10.00
	(P2) Processing an Order	Evaluation Result = 35.00
	(P3) Delivering an Order	Evaluation Result = 09.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Number of Expert's Responses per Factor for Phase 1 (e-Passport)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	1	0	0
E/P1/A1/F1	1	0	0
E/P1/A1/F2	1	0	0
E/P1/A1/F3	0	0	1
E/P1/A2/F1	0	0	1
E/P1/A2/F2	0	0	1
E/P1/A2/F3	1	0	0
E/P1/A3/F1	0	0	1
E/P1/A3/F2	0	0	1
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (e-Passport)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	5	10	10 Factors * 1 Response
# of 1 (Neutral)/P	0	1	1 Factor * 1 Response
# of 0 (Negative)/P	5	10	10 Factors * 1 Response

- **Number of Expert's Responses per Factor for Phase 2 (P2) (e-Passport)**

<b>Path</b>	<b># of 2 (Positive)</b>	<b># of 1 (Neutral)</b>	<b># of 0 (Negative)</b>
<b>E/P2/F0</b>	0	1	0
<b>E/P2/A1/F1</b>	1	0	0
<b>E/P2/A1/F2</b>	1	0	0
<b>E/P2/A1/F3</b>	1	0	0
<b>E/P2/A1/F4</b>	0	0	1
<b>E/P2/A2/F1</b>	0	1	0
<b>E/P2/A2/F2</b>	0	1	0
<b>E/P2/A2/F3</b>	1	0	0
<b>E/P2/A2/F4</b>	0	1	0
<b>E/P2/A3/F1</b>	1	0	0
<b>E/P2/A3/F2</b>	0	0	1
<b>E/P2/A3/F3</b>	0	0	1
<b>E/P2/A4/F1</b>	1	0	0
<b>E/P2/A4/F2</b>	1	0	0
<b>E/P2/A4/F3</b>	1	0	0
<b>E/P2/A4/F4</b>	1	0	0
<b>E/P2/A4/F5</b>	1	0	0
<b>E/P2/A4/F6</b>	0	1	0
<b>E/P2/A4/F7</b>	0	1	0
<b>E/P2/A5/F1</b>	1	0	0
<b>E/P2/A5/F2</b>	0	0	1
<b>E/P2/A5/F3</b>	1	0	0
<b>E/P2/A5/F4</b>	0	1	0
<b>E/P2/A5/F5</b>	0	0	1
<b>E/P2/A5/F6</b>	0	0	1
<b>E/P2/A6/F1</b>	0	0	1
<b>E/P2/A6/F2</b>	0	1	0
<b>E/P2/A7/F1</b>	0	0	1
<b>E/P2/A7/F2</b>	1	0	0
<b>E/P2/A7/F3</b>	1	0	0

- **Total number of Expert's Responses for Phase 2 (P2) (e-Passport)**

	<b>Results</b>	<b>Out of</b>
<b># of R/P</b>	1	1
<b># of 2 (Positive)/P</b>	14	30
<b># of 1 (Neutral)/P</b>	7	8
<b># of 0 (Negative)/P</b>	9	30



- **Number of Expert's Responses per Factor for Phase 3 (P3) (e-Passport)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	0	1	0
E/P3/A1/F1	1	0	0
E/P3/A1/F2	0	0	1
E/P3/A1/F3	0	1	0
E/P3/A2/F1	0	1	0
E/P3/A2/F2	0	0	1
E/P3/A2/F3	0	0	1
E/P3/A3/F1	1	0	0
E/P3/A3/F2	1	0	0
E/P3/A3/F3	0	0	1

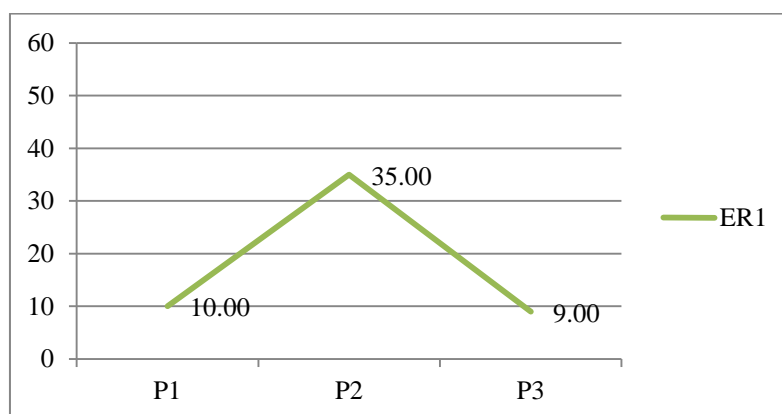
- **Total number of Expert's Responses for Phase 3 (P3) (e-Passport)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	3	10
# of 1 (Neutral)/P	3	5
# of 0 (Negative)/P	4	10

- **Total number of Expert's Responses for (e-Passport)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	22	50
# of 1 (Neutral)/E	10	14
# of 0 (Negative)/E	18	50

- **ER1 e-Passport Emotion Line (EL)**



- **ER1 e-Passport per P1, P2, and P3**

ER1
54.00

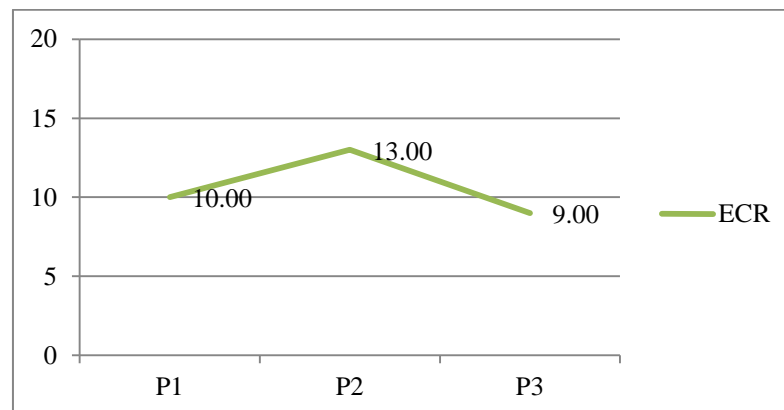
- **ER1 e-Passport per Phase (P)**

P	ER1
P1	10.00
P2	35.00
P3	09.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

iMGov4C	iMGov4E
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for e-Passport Emotion Line (EL)**



## Q. Full analysis for University application using iMGov4E

- University Application iMGov4E Summary**

<b>e-Service</b>	University application	
<b>Definition</b>	Using the university website to apply for admission	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 77.00
	(P1) Placing an Order	Evaluation Result = 12.00
	(P2) Processing an Order	Evaluation Result = 47.00
	(P3) Delivering an Order	Evaluation Result = 18.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Number of Expert's Responses per Factor for Phase 1 (University application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	1	0	0
E/P1/A1/F1	0	0	1
E/P1/A1/F2	1	0	0
E/P1/A1/F3	1	0	0
E/P1/A2/F1	0	0	1
E/P1/A2/F2	0	0	1
E/P1/A2/F3	0	0	1
E/P1/A3/F1	0	0	1
E/P1/A3/F2	0	0	1
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (University application)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	4	10	10 Factors * 1 Response
# of 1 (Neutral)/P	0	1	1 Factors * 1 Response
# of 0 (Negative)/P	6	10	10 Factors * 1 Response

- **Number of Expert's Responses per Factor for Phase 2 (University application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P2/F0	1	0	0
E/P2/A1/F1	1	0	0
E/P2/A1/F2	1	0	0
E/P2/A1/F3	1	0	0
E/P2/A1/F4	1	0	0
E/P2/A2/F1	1	0	0
E/P2/A2/F2	1	0	0
E/P2/A2/F3	1	0	0
E/P2/A2/F4	1	0	0
E/P2/A3/F1	1	0	0
E/P2/A3/F2	1	0	0
E/P2/A3/F3	1	0	0
E/P2/A4/F1	1	0	0
E/P2/A4/F2	0	1	0
E/P2/A4/F3	0	0	1
E/P2/A4/F4	1	0	0
E/P2/A4/F5	1	0	0
E/P2/A4/F6	0	1	0
E/P2/A4/F7	0	0	1
E/P2/A5/F1	1	0	0
E/P2/A5/F2	0	0	1
E/P2/A5/F3	1	0	0
E/P2/A5/F4	0	1	0
E/P2/A5/F5	0	0	1
E/P2/A5/F6	1	0	0
E/P2/A6/F1	1	0	0
E/P2/A6/F2	0	1	0
E/P2/A7/F1	0	0	1
E/P2/A7/F2	1	0	0
E/P2/A7/F3	1	0	0

- **Total number of Expert's Response per Phase 2 (P2) (University application)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	21	30
# of 1 (Neutral)/P	4	8
# of 0 (Negative)/P	5	30

- **Number of Expert's Responses per Factor for Phase 3 (University application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	1	0	0
E/P3/A1/F1	1	0	0
E/P3/A1/F2	1	0	0
E/P3/A1/F3	1	0	0
E/P3/A2/F1	1	0	0
E/P3/A2/F2	1	0	0
E/P3/A2/F3	0	0	1
E/P3/A3/F1	1	0	0
E/P3/A3/F2	1	0	0
E/P3/A3/F3	1	0	0

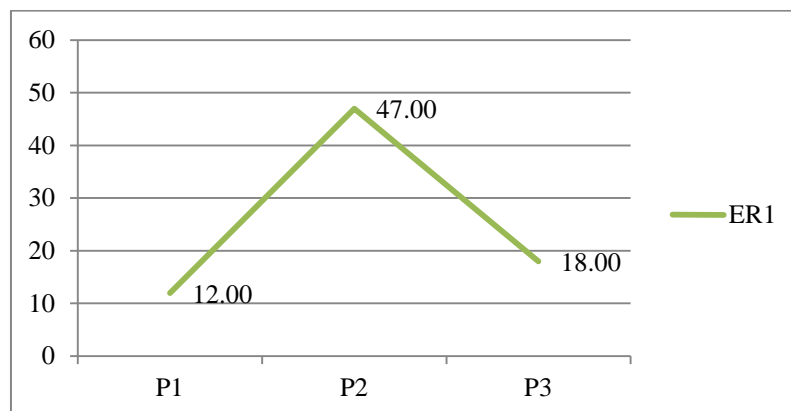
- **Total number of Expert's Responses per Phase 3 (P3) (University application)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	9	10
# of 1 (Neutral)/P	0	5
# of 0 (Negative)/P	1	10

- **Total number of Expert's Responses for (University application)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	34	50
# of 1 (Neutral)/E	4	14
# of 0 (Negative)/E	12	50

- **ER1 University application Emotion Line (EL)**



- **ER1 University application per P1, P2, and P3**

ER1
77.00

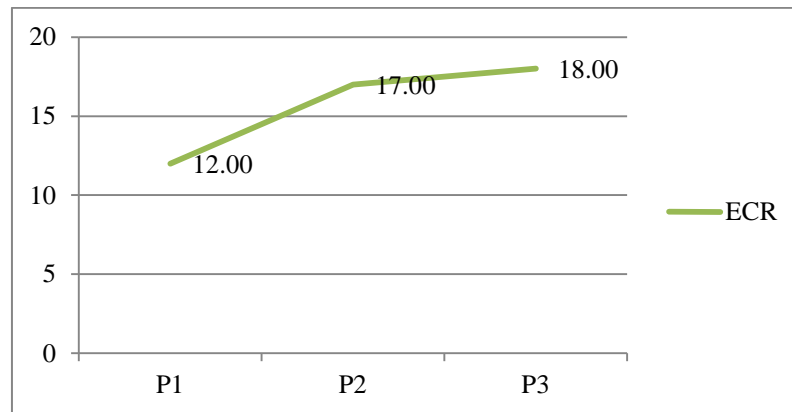
- **ER1 University application per Phase (P)**

P	ER1
P1	12.00
P2	47.00
P3	18.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

iMGov4C	iMGov4E
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for University application Emotion Line (EL)**



## R. Full analysis for National ID card using iMGov4E

- National ID card iMGov4E Summary**

<b>e-Service</b>	National ID Card	
<b>Definition</b>	Using the organization website to apply for national ID Card	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 78.00
	(P1) Placing an Order	Evaluation Result = 12.00
	(P2) Processing an Order	Evaluation Result = 47.00
	(P3) Delivering an Order	Evaluation Result = 19.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Count of Expert's Responses per Factor for Phase 1 (National ID card)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	1	0	0
E/P1/A1/F1	1	0	0
E/P1/A1/F2	0	0	1
E/P1/A1/F3	1	0	0
E/P1/A2/F1	1	0	0
E/P1/A2/F2	1	0	0
E/P1/A2/F3	0	0	1
E/P1/A3/F1	0	0	1
E/P1/A3/F2	0	0	1
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (National ID card)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	6	10	10 Factors * 1 Response
# of 1 (Neutral)/P	0	1	1 Factors * 1 Response
# of 0 (Negative)/P	4	10	10 Factors * 1 Response



- **Number of Expert's Responses per Factor for Phase 2 (National ID card)**

<b>Path</b>	<b># of 2 (Positive)</b>	<b># of 1 (Neutral)</b>	<b># of 0 (Negative)</b>
<b>E/P2/F0</b>	1	0	0
<b>E/P2/A1/F1</b>	1	0	0
<b>E/P2/A1/F2</b>	1	0	0
<b>E/P2/A1/F3</b>	0	0	1
<b>E/P2/A1/F4</b>	0	0	1
<b>E/P2/A2/F1</b>	1	0	0
<b>E/P2/A2/F2</b>	1	0	0
<b>E/P2/A2/F3</b>	1	0	0
<b>E/P2/A2/F4</b>	1	0	0
<b>E/P2/A3/F1</b>	1	0	0
<b>E/P2/A3/F2</b>	1	0	0
<b>E/P2/A3/F3</b>	1	0	0
<b>E/P2/A4/F1</b>	1	0	0
<b>E/P2/A4/F2</b>	1	0	0
<b>E/P2/A4/F3</b>	1	0	0
<b>E/P2/A4/F4</b>	1	0	0
<b>E/P2/A4/F5</b>	1	0	0
<b>E/P2/A4/F6</b>	1	0	0
<b>E/P2/A4/F7</b>	0	1	0
<b>E/P2/A5/F1</b>	1	0	0
<b>E/P2/A5/F2</b>	0	0	1
<b>E/P2/A5/F3</b>	0	0	1
<b>E/P2/A5/F4</b>	1	0	0
<b>E/P2/A5/F5</b>	1	0	0
<b>E/P2/A5/F6</b>	1	0	0
<b>E/P2/A6/F1</b>	0	0	1
<b>E/P2/A6/F2</b>	0	0	1
<b>E/P2/A7/F1</b>	1	0	0
<b>E/P2/A7/F2</b>	1	0	0
<b>E/P2/A7/F3</b>	1	0	0

- **Total number of Expert's Responses per Phase 2 (P2) (National ID card)**

	<b>Results</b>	<b>Out of</b>
<b># of R/P</b>	1	1
<b># of 2 (Positive)/P</b>	23	30
<b># of 1 (Neutral)/P</b>	1	8
<b># of 0 (Negative)/P</b>	6	30

- **Number of Expert's Responses per Factor for Phase 3 (National ID card)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	1	0	0
E/P3/A1/F1	1	0	0
E/P3/A1/F2	0	1	0
E/P3/A1/F3	1	0	0
E/P3/A2/F1	1	0	0
E/P3/A2/F2	1	0	0
E/P3/A2/F3	1	0	0
E/P3/A3/F1	1	0	0
E/P3/A3/F2	1	0	0
E/P3/A3/F3	1	0	0

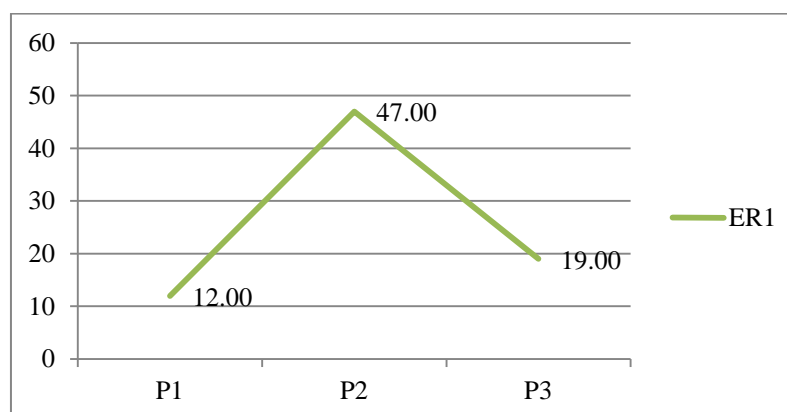
- **Total number of Expert's Responses per Phase 3 (P3) (National ID card)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	9	10
# of 1 (Neutral)/P	1	5
# of 0 (Negative)/P	0	10

- **Total number of Expert's Responses for (National ID card)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	38	50
# of 1 (Neutral)/E	2	14
# of 0 (Negative)/E	10	50

- **ER1 National ID card Emotion Line (EL)**



- **ER1 National ID card per P1, P2, and P3**

ER1
78.00

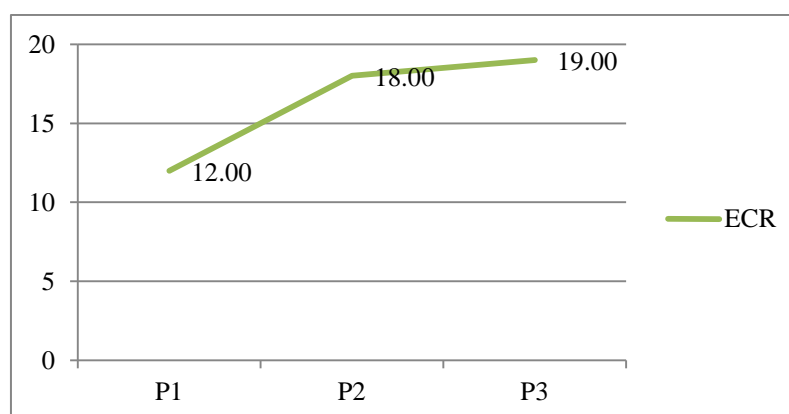
- **ER1 National ID card per Phase (P)**

P	ER1
P1	12.00
P2	47.00
P3	19.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

iMGov4C	iMGov4E
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for National ID card Emotion Line (EL)**



## S. Full analysis for e-Gate using iMGov4E

- e-Gate iMGov4E Summary**

<b>e-Service</b>	e-Gate	
<b>Definition</b>	Using the organization website to apply for an e-Gate card that works as a passport in airports	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 41.00
	(P1) Placing an Order	Evaluation Result = 07.00
	(P2) Processing an Order	Evaluation Result = 24.00
	(P3) Delivering an Order	Evaluation Result = 10.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Number of Expert's Responses per Factor for Phase 1 (e-Gate)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	0	1	0
E/P1/A1/F1	0	0	1
E/P1/A1/F2	0	0	1
E/P1/A1/F3	1	0	0
E/P1/A2/F1	0	0	1
E/P1/A2/F2	1	0	0
E/P1/A2/F3	0	0	1
E/P1/A3/F1	0	0	1
E/P1/A3/F2	0	0	1
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (e-Gate)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	3	10	10 Factors * 1 Response
# of 1 (Neutral)/P	1	1	1 Factors * 1 Response
# of 0 (Negative)/P	6	10	10 Factors * 1 Response

- **Number of Expert's Responses per Factor for Phase 2 (e-Gate)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P2/F0	0	1	0
E/P2/A1/F1	1	0	0
E/P2/A1/F2	1	0	0
E/P2/A1/F3	0	0	1
E/P2/A1/F4	0	0	1
E/P2/A2/F1	0	1	0
E/P2/A2/F2	0	1	0
E/P2/A2/F3	0	0	1
E/P2/A2/F4	0	0	1
E/P2/A3/F1	1	0	0
E/P2/A3/F2	0	0	1
E/P2/A3/F3	1	0	0
E/P2/A4/F1	0	0	1
E/P2/A4/F2	0	0	1
E/P2/A4/F3	1	0	0
E/P2/A4/F4	0	0	1
E/P2/A4/F5	0	1	0
E/P2/A4/F6	0	1	0
E/P2/A4/F7	0	0	1
E/P2/A5/F1	0	0	1
E/P2/A5/F2	1	0	0
E/P2/A5/F3	0	0	1
E/P2/A5/F4	0	1	0
E/P2/A5/F5	1	0	0
E/P2/A5/F6	0	0	1
E/P2/A6/F1	0	0	1
E/P2/A6/F2	0	0	1
E/P2/A7/F1	0	0	1
E/P2/A7/F2	1	0	0
E/P2/A7/F3	1	0	0

- **Total number of Expert's Responses per Phase 2 (P2) (e-Gate)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	9	30
# of 1 (Neutral)/P	6	8
# of 0 (Negative)/P	15	30

- **Number of Expert's Responses per Factor for Phase 3 (e-Gate)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	0	1	0
E/P3/A1/F1	0	1	0
E/P3/A1/F2	0	0	1
E/P3/A1/F3	0	1	0
E/P3/A2/F1	0	1	0
E/P3/A2/F2	1	0	0
E/P3/A2/F3	1	0	0
E/P3/A3/F1	1	0	0
E/P3/A3/F2	0	0	1
E/P3/A3/F3	0	0	1

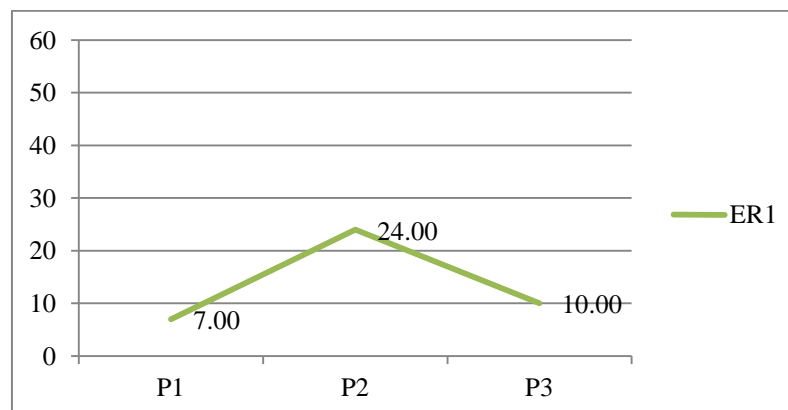
- **Total number of Expert's Responses per Phase 3 (P3) (e-Gate)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	3	10
# of 1 (Neutral)/P	4	5
# of 0 (Negative)/P	3	10

- **Total number of Expert's Responses for (e-Gate)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	15	50
# of 1 (Neutral)/E	11	14
# of 0 (Negative)/E	24	50

- **ER1 e-Gate Emotion Line (EL)**



- **ER1 e-Gate per P1, P2, and P3**

<b>ER1</b>
41.00

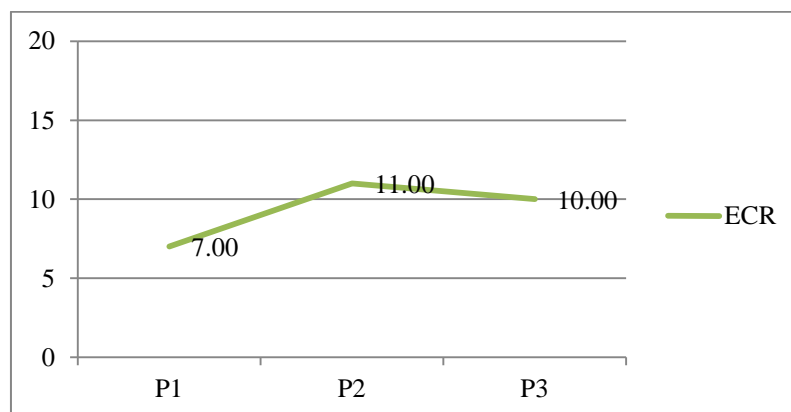
- **ER1 e-Gate per Phase (P)**

<b>P</b>	<b>ER1</b>
<b>P1</b>	07.00
<b>P2</b>	24.00
<b>P3</b>	10.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

<b>iMGov4C</b>	<b>iMGov4E</b>
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for e-Gate Emotion Line (EL)**



## T. Full analysis for scholarship using iMGov4E

- Scholarship iMGov4E Summary**

<b>e-Service</b>	Scholarship	
<b>Definition</b>	Using the organization website to apply for scholarship e-Services provided to students who study abroad	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 77.00
	(P1) Placing an Order	Evaluation Result = 12.00
	(P2) Processing an Order	Evaluation Result = 49.00
	(P3) Delivering an Order	Evaluation Result = 16.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Number of Expert's Responses per Factor for Phase 1 (Scholarship)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	1	0	0
E/P1/A1/F1	1	0	0
E/P1/A1/F2	0	0	1
E/P1/A1/F3	1	0	0
E/P1/A2/F1	1	0	0
E/P1/A2/F2	0	0	1
E/P1/A2/F3	1	0	0
E/P1/A3/F1	0	0	1
E/P1/A3/F2	0	0	1
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (Scholarship)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	6	10	10 Factors * 1 Response
# of 1 (Neutral)/P	0	1	1 Factors * 1 Response
# of 0 (Negative)/P	4	10	10 Factors * 1 Response



- **Number of Expert's Responses per Factor for Phase 2 (Scholarship)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P2/F0	1	0	0
E/P2/A1/F1	1	0	0
E/P2/A1/F2	1	0	0
E/P2/A1/F3	1	0	0
E/P2/A1/F4	0	0	1
E/P2/A2/F1	1	0	0
E/P2/A2/F2	0	1	0
E/P2/A2/F3	0	0	1
E/P2/A2/F4	1	0	0
E/P2/A3/F1	1	0	0
E/P2/A3/F2	1	0	0
E/P2/A3/F3	1	0	0
E/P2/A4/F1	1	0	0
E/P2/A4/F2	1	0	0
E/P2/A4/F3	1	0	0
E/P2/A4/F4	0	0	1
E/P2/A4/F5	1	0	0
E/P2/A4/F6	1	0	0
E/P2/A4/F7	1	0	0
E/P2/A5/F1	1	0	0
E/P2/A5/F2	0	0	1
E/P2/A5/F3	1	0	0
E/P2/A5/F4	1	0	0
E/P2/A5/F5	1	0	0
E/P2/A5/F6	1	0	0
E/P2/A6/F1	1	0	0
E/P2/A6/F2	0	0	1
E/P2/A7/F1	1	0	0
E/P2/A7/F2	1	0	0
E/P2/A7/F3	1	0	0

- **Total number of Expert's Responses per Phase 2 (P2) (Scholarship)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	24	30
# of 1 (Neutral)/P	1	8
# of 0 (Negative)/P	5	30

- **Number of Expert's Response per Factor for Phase 3 (Scholarship)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	1	0	0
E/P3/A1/F1	1	0	0
E/P3/A1/F2	0	0	1
E/P3/A1/F3	1	0	0
E/P3/A2/F1	1	0	0
E/P3/A2/F2	1	0	0
E/P3/A2/F3	1	0	0
E/P3/A3/F1	1	0	0
E/P3/A3/F2	1	0	0
E/P3/A3/F3	0	0	1

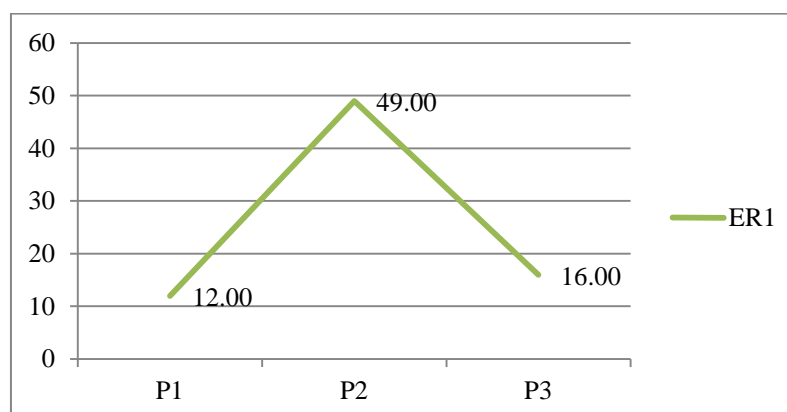
- **Total number of Expert's Responses per Phase 3 (P3) (Scholarship)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	8	10
# of 1 (Neutral)/P	0	5
# of 0 (Negative)/P	2	10

- **Total number of Expert's Responses for (Scholarship)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	38	50
# of 1 (Neutral)/E	1	14
# of 0 (Negative)/E	11	50

- **ER1 Scholarship Emotion Line (EL)**



- **ER1 Scholarship per P1, P2, and P3**

<b>ER1</b>
77.00

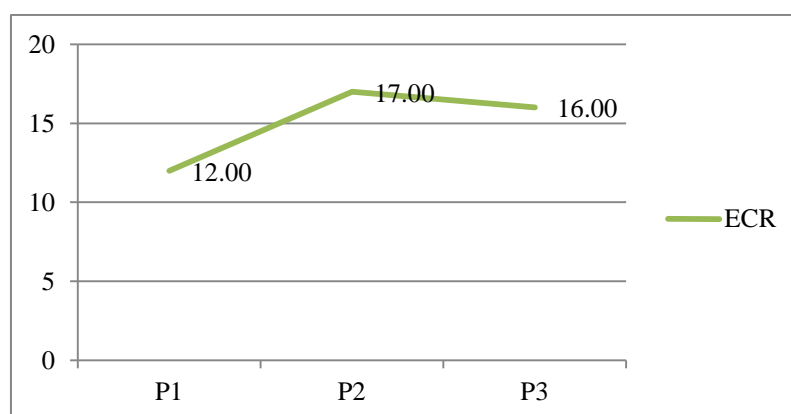
- **ER1 Scholarship per Phase (P)**

<b>P</b>	<b>ER1</b>
<b>P1</b>	12.00
<b>P2</b>	49.00
<b>P3</b>	16.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

<b>iMGov4C</b>	<b>iMGov4E</b>
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for Scholarship Emotion Line (EL)**



## U. Full analysis for Traffic violations using iMGov4E

- Traffic Violations iMGov4E Summary**

<b>e-Service</b>	Traffic violations	
<b>Definition</b>	Using the organization website to query traffic violations	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 85.00
	(P1) Placing an Order	Evaluation Result = 18.00
	(P2) Processing an Order	Evaluation Result = 49.00
	(P3) Delivering an Order	Evaluation Result = 18.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Count of Expert's Responses per Factor for Phase 1 (Traffic violations)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	1	0	0
E/P1/A1/F1	1	0	0
E/P1/A1/F2	1	0	0
E/P1/A1/F3	1	0	0
E/P1/A2/F1	1	0	0
E/P1/A2/F2	1	0	0
E/P1/A2/F3	1	0	0
E/P1/A3/F1	0	0	1
E/P1/A3/F2	1	0	0
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (Traffic violations)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	9	10	10 Factors * 1 Response
# of 1 (Neutral)/P	0	1	1 Factors * 1 Response
# of 0 (Negative)/P	1	10	10 Factors * 1 Response

- **Number of Expert's Response per Factor for Phase 2 (Traffic violations)**

<b>Path</b>	<b># of 2 (Positive)</b>	<b># of 1 (Neutral)</b>	<b># of 0 (Negative)</b>
<b>E/P2/F0</b>	1	0	0
<b>E/P2/A1/F1</b>	1	0	0
<b>E/P2/A1/F2</b>	1	0	0
<b>E/P2/A1/F3</b>	0	0	1
<b>E/P2/A1/F4</b>	0	0	1
<b>E/P2/A2/F1</b>	1	0	0
<b>E/P2/A2/F2</b>	1	0	0
<b>E/P2/A2/F3</b>	1	0	0
<b>E/P2/A2/F4</b>	1	0	0
<b>E/P2/A3/F1</b>	1	0	0
<b>E/P2/A3/F2</b>	1	0	0
<b>E/P2/A3/F3</b>	1	0	0
<b>E/P2/A4/F1</b>	1	0	0
<b>E/P2/A4/F2</b>	1	0	0
<b>E/P2/A4/F3</b>	1	0	0
<b>E/P2/A4/F4</b>	0	0	1
<b>E/P2/A4/F5</b>	1	0	0
<b>E/P2/A4/F6</b>	1	0	0
<b>E/P2/A4/F7</b>	0	1	0
<b>E/P2/A5/F1</b>	1	0	0
<b>E/P2/A5/F2</b>	1	0	0
<b>E/P2/A5/F3</b>	1	0	0
<b>E/P2/A5/F4</b>	1	0	0
<b>E/P2/A5/F5</b>	1	0	0
<b>E/P2/A5/F6</b>	1	0	0
<b>E/P2/A6/F1</b>	0	0	1
<b>E/P2/A6/F2</b>	0	0	1
<b>E/P2/A7/F1</b>	1	0	0
<b>E/P2/A7/F2</b>	1	0	0
<b>E/P2/A7/F3</b>	1	0	0

- **Total number of Expert's Responses per Phase 2 (P2) (Traffic violations)**

	<b>Results</b>	<b>Out of</b>
<b># of R/P</b>	1	1
<b># of 2 (Positive)/P</b>	24	30
<b># of 1 (Neutral)/P</b>	1	8
<b># of 0 (Negative)/P</b>	5	30

- **Number of Expert's Responses per Factor for Phase 3 (Traffic violations)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	1	0	0
E/P3/A1/F1	1	0	0
E/P3/A1/F2	1	0	0
E/P3/A1/F3	1	0	0
E/P3/A2/F1	1	0	0
E/P3/A2/F2	1	0	0
E/P3/A2/F3	1	0	0
E/P3/A3/F1	0	0	1
E/P3/A3/F2	1	0	0
E/P3/A3/F3	1	0	0

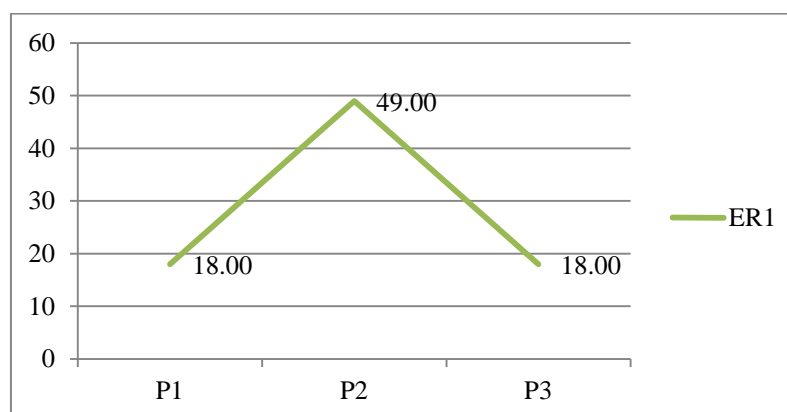
- **Total number of Expert's Responses per Phase 3 (P3) (Traffic violations)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	9	10
# of 1 (Neutral)/P	0	5
# of 0 (Negative)/P	1	10

- **Total number of Expert's Responses for (Traffic violations)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	42	50
# of 1 (Neutral)/E	1	14
# of 0 (Negative)/E	7	50

- **ER1 Traffic violations Emotion Line (EL)**



- **ER1 Traffic violations per P1, P2, and P3**

ER1
85.00

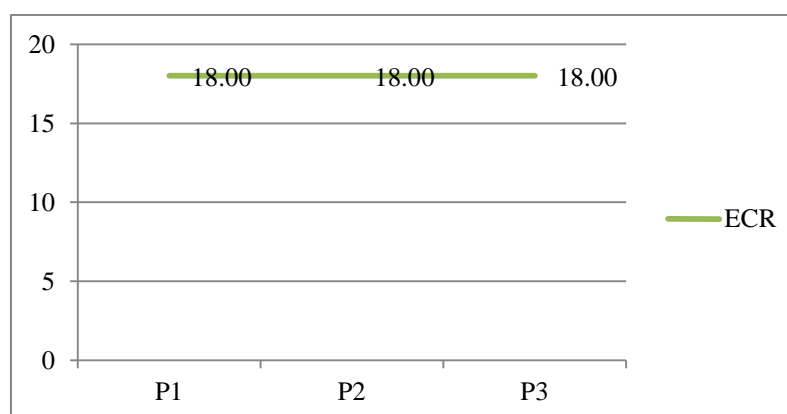
- **ER1 Traffic violations per Phase (P)**

P	ER1
P1	18.00
P2	49.00
P3	18.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

iMGov4C	iMGov4E
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for Traffic violations Emotion Line (EL)**



## V. Full analysis for Loan request using iMGov4E

- **Loan Request iMGov4E Summary**

<b>e-Service</b>	Loan Request	
<b>Definition</b>	Using the organization website to apply for a loan provided by the government to citizens	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 57.00
	(P1) Placing an Order	Evaluation Result = 13.00
	(P2) Processing an Order	Evaluation Result = 30.00
	(P3) Delivering an Order	Evaluation Result = 14.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- **Number of Expert's Responses per Factor for Phase 1 (Loan request)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	0	1	0
E/P1/A1/F1	1	0	0
E/P1/A1/F2	1	0	0
E/P1/A1/F3	1	0	0
E/P1/A2/F1	1	0	0
E/P1/A2/F2	0	0	1
E/P1/A2/F3	0	0	1
E/P1/A3/F1	1	0	0
E/P1/A3/F2	0	0	1
E/P1/A3/F3	1	0	0

- **Total number of Expert's Responses per Phase 1 (P1) (Loan request)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	6	10	10 Factors * 1 Response
# of 1 (Neutral)/P	1	1	1 Factors * 1 Response
# of 0 (Negative)/P	3	10	10 Factors * 1 Response



- **Number of Expert's Responses per Factor for Phase 2 (Loan request)**

<b>Path</b>	<b># of 2 (Positive)</b>	<b># of 1 (Neutral)</b>	<b># of 0 (Negative)</b>
<b>E/P2/F0</b>	0	1	0
<b>E/P2/A1/F1</b>	1	0	0
<b>E/P2/A1/F2</b>	1	0	0
<b>E/P2/A1/F3</b>	1	0	0
<b>E/P2/A1/F4</b>	0	0	1
<b>E/P2/A2/F1</b>	0	1	0
<b>E/P2/A2/F2</b>	0	1	0
<b>E/P2/A2/F3</b>	0	0	1
<b>E/P2/A2/F4</b>	0	0	1
<b>E/P2/A3/F1</b>	1	0	0
<b>E/P2/A3/F2</b>	0	0	1
<b>E/P2/A3/F3</b>	0	0	1
<b>E/P2/A4/F1</b>	1	0	0
<b>E/P2/A4/F2</b>	0	0	1
<b>E/P2/A4/F3</b>	1	0	0
<b>E/P2/A4/F4</b>	1	0	0
<b>E/P2/A4/F5</b>	0	1	0
<b>E/P2/A4/F6</b>	1	0	0
<b>E/P2/A4/F7</b>	1	0	0
<b>E/P2/A5/F1</b>	1	0	0
<b>E/P2/A5/F2</b>	0	0	1
<b>E/P2/A5/F3</b>	0	0	1
<b>E/P2/A5/F4</b>	0	1	0
<b>E/P2/A5/F5</b>	1	0	0
<b>E/P2/A5/F6</b>	1	0	0
<b>E/P2/A6/F1</b>	0	0	1
<b>E/P2/A6/F2</b>	0	1	0
<b>E/P2/A7/F1</b>	0	0	1
<b>E/P2/A7/F2</b>	0	0	1
<b>E/P2/A7/F3</b>	0	0	1

- **Total number of Expert's Responses per Phase 2 (P2) (Loan request)**

	<b>Results</b>	<b>Out of</b>
<b># of R/P</b>	1	1
<b># of 2 (Positive)/P</b>	12	30
<b># of 1 (Neutral)/P</b>	6	8
<b># of 0 (Negative)/P</b>	12	30

- **Number of Expert's Responses per Factor for Phase 3 (Loan request)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	0	1	0
E/P3/A1/F1	0	1	0
E/P3/A1/F2	0	0	1
E/P3/A1/F3	0	1	0
E/P3/A2/F1	0	1	0
E/P3/A2/F2	1	0	0
E/P3/A2/F3	1	0	0
E/P3/A3/F1	1	0	0
E/P3/A3/F2	1	0	0
E/P3/A3/F3	1	0	0

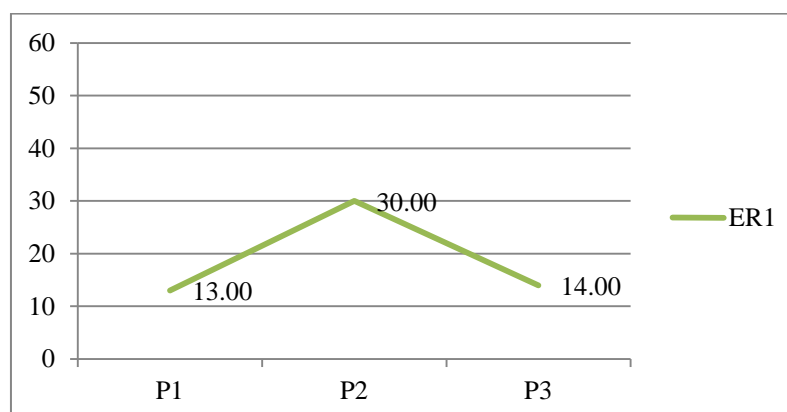
- **Total number of Expert's Responses per Phase 3 (P3) (Loan request)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	5	10
# of 1 (Neutral)/P	4	5
# of 0 (Negative)/P	1	10

- **Total number of Expert's Responses for (Loan request)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	23	50
# of 1 (Neutral)/E	11	14
# of 0 (Negative)/E	16	50

- **ER1 Loan request Emotion Line (EL)**



- **ER1 Loan request per P1, P2, and P3**

ER1
57.00

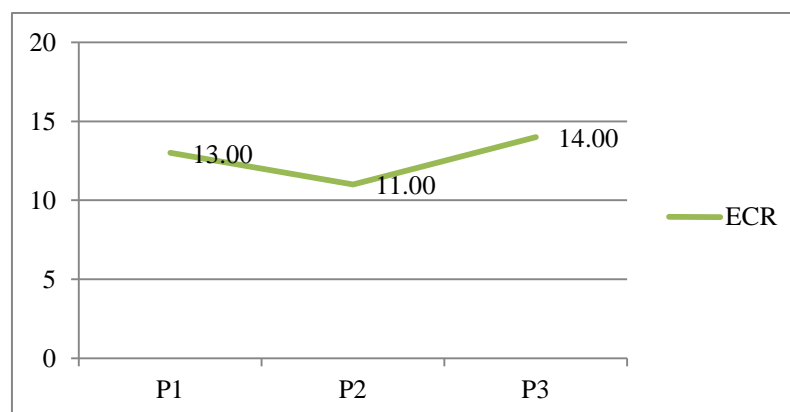
- **ER1 Loan request per Phase (P)**

P	ER1
P1	13.00
P2	30.00
P3	14.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

iMGov4C	iMGov4E
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for Loan request Emotion Line (EL)**



## W.Full analysis for Job application using iMGov4E

- Job Application iMGov4E Summary**

<b>e-Service</b>	Job application	
<b>Definition</b>	Using the organization website to help citizens who do not have a job to find one by offering monthly allowance for one year plus training until they find a suitable job	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 85.00
	(P1) Placing an Order	Evaluation Result = 14.00
	(P2) Processing an Order	Evaluation Result = 51.00
	(P3) Delivering an Order	Evaluation Result = 20.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Count of Expert's Responses per Factor for Phase 1 (Job application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	1	0	0
E/P1/A1/F1	1	0	0
E/P1/A1/F2	0	0	1
E/P1/A1/F3	1	0	0
E/P1/A2/F1	1	0	0
E/P1/A2/F2	1	0	0
E/P1/A2/F3	1	0	0
E/P1/A3/F1	0	0	1
E/P1/A3/F2	0	0	1
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (Job application)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	7	10	10 Factors * 1 Response
# of 1 (Neutral)/P	0	1	1 Factors * 1 Response
# of 0 (Negative)/P	3	10	10 Factors * 1 Response

- **Number of Expert's Responses per Factor for Phase 2 (Job application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P2/F0	1	0	0
E/P2/A1/F1	1	0	0
E/P2/A1/F2	1	0	0
E/P2/A1/F3	1	0	0
E/P2/A1/F4	0	0	1
E/P2/A2/F1	1	0	0
E/P2/A2/F2	1	0	0
E/P2/A2/F3	1	0	0
E/P2/A2/F4	1	0	0
E/P2/A3/F1	1	0	0
E/P2/A3/F2	1	0	0
E/P2/A3/F3	0	0	1
E/P2/A4/F1	1	0	0
E/P2/A4/F2	1	0	0
E/P2/A4/F3	1	0	0
E/P2/A4/F4	1	0	0
E/P2/A4/F5	1	0	0
E/P2/A4/F6	1	0	0
E/P2/A4/F7	1	0	0
E/P2/A5/F1	1	0	0
E/P2/A5/F2	1	0	0
E/P2/A5/F3	1	0	0
E/P2/A5/F4	1	0	0
E/P2/A5/F5	0	0	1
E/P2/A5/F6	1	0	0
E/P2/A6/F1	1	0	0
E/P2/A6/F2	0	1	0
E/P2/A7/F1	0	0	1
E/P2/A7/F2	1	0	0
E/P2/A7/F3	1	0	0

- **Total number of Expert's Responses per Phase 2 (P2) (Job application)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	25	30
# of 1 (Neutral)/P	1	8
# of 0 (Negative)/P	4	30

- **Number of Expert's Responses per Factor for Phase 3 (Job application)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	1	0	0
E/P3/A1/F1	1	0	0
E/P3/A1/F2	1	0	0
E/P3/A1/F3	1	0	0
E/P3/A2/F1	1	0	0
E/P3/A2/F2	1	0	0
E/P3/A2/F3	1	0	0
E/P3/A3/F1	1	0	0
E/P3/A3/F2	1	0	0
E/P3/A3/F3	1	0	0

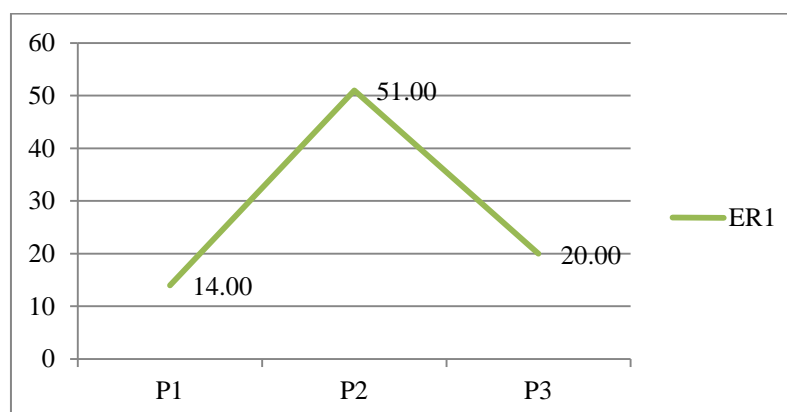
- **Total number of Expert's Responses per Phase 3 (P3) (Job application)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	10	10
# of 1 (Neutral)/P	0	5
# of 0 (Negative)/P	0	10

- **Total number of Expert's Responses for (Job application)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	42	50
# of 1 (Neutral)/E	1	14
# of 0 (Negative)/E	7	50

- **ER1 Job application Emotion Line (EL)**



- **ER1 Job application per P1, P2, and P3**

<b>ER1</b>
85.00

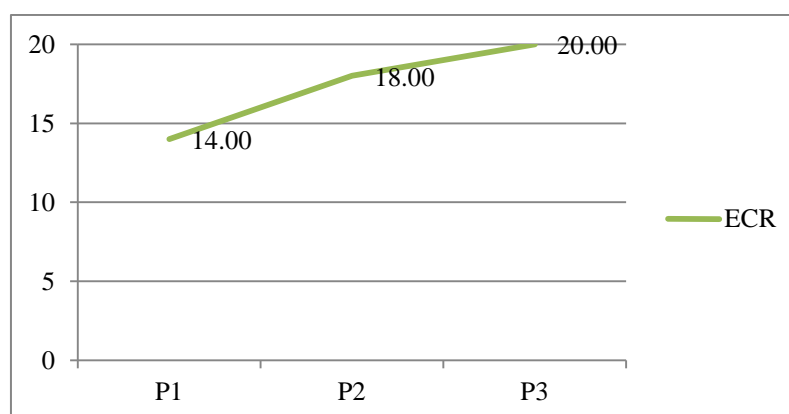
- **ER1 Job application per Phase (P)**

<b>P</b>	<b>ER1</b>
<b>P1</b>	14.00
<b>P2</b>	51.00
<b>P3</b>	20.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

<b>iMGov4C</b>	<b>iMGov4E</b>
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for Job application Emotion Line (EL)**



## X. Full analysis for e-Visa using iMGov4E

- e-Visa iMGov4E Summary**

<b>e-Service</b>	e-Visa	
<b>Definition</b>	Using the organization website to apply for family visit visas for first degree relatives	
<b>Evaluation Model</b>	iMGov4E	
<b>Number of Responses</b>	1	
<b>Results</b>	(P1) (P2) (P3)	Evaluation Result= 45.00
	(P1) Placing an Order	Evaluation Result = 09.00
	(P2) Processing an Order	Evaluation Result = 29.00
	(P3) Delivering an Order	Evaluation Result = 07.00
<b>Notes</b>	All responses were taken based on the country of Saudi Arabia iMGov4E Average out of 100 iMGov4E/P1 Average out of 20 iMGov4E/P2 Average out of 60 iMGov4E/P3 Average out of 20	

- Number of Expert's Responses per Factor for Phase 1 (e-Visa)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P1/F0	0	1	0
E/P1/A1/F1	0	0	1
E/P1/A1/F2	1	0	0
E/P1/A1/F3	0	0	1
E/P1/A2/F1	0	0	1
E/P1/A2/F2	0	0	1
E/P1/A2/F3	0	0	1
E/P1/A3/F1	1	0	0
E/P1/A3/F2	1	0	0
E/P1/A3/F3	1	0	0

- Total number of Expert's Responses per Phase 1 (P1) (e-Visa)**

	Results	Out of	Notes
# of R/P	1	1	
# of 2 (Positive)/P	4	10	10 Factors * 1 Response
# of 1 (Neutral)/P	1	1	1 Factors * 1 Response
# of 0 (Negative)/P	5	10	10 Factors * 1 Response



- **Number of Expert's Responses per Factor for Phase 2 (e-Visa)**

<b>Path</b>	<b># of 2 (Positive)</b>	<b># of 1 (Neutral)</b>	<b># of 0 (Negative)</b>
<b>E/P2/F0</b>	0	1	0
<b>E/P2/A1/F1</b>	1	0	0
<b>E/P2/A1/F2</b>	1	0	0
<b>E/P2/A1/F3</b>	1	0	0
<b>E/P2/A1/F4</b>	0	0	1
<b>E/P2/A2/F1</b>	0	1	0
<b>E/P2/A2/F2</b>	0	1	0
<b>E/P2/A2/F3</b>	0	0	1
<b>E/P2/A2/F4</b>	0	0	1
<b>E/P2/A3/F1</b>	0	0	1
<b>E/P2/A3/F2</b>	1	0	0
<b>E/P2/A3/F3</b>	0	0	1
<b>E/P2/A4/F1</b>	1	0	0
<b>E/P2/A4/F2</b>	1	0	0
<b>E/P2/A4/F3</b>	1	0	0
<b>E/P2/A4/F4</b>	1	0	0
<b>E/P2/A4/F5</b>	0	1	0
<b>E/P2/A4/F6</b>	0	1	0
<b>E/P2/A4/F7</b>	0	1	0
<b>E/P2/A5/F1</b>	0	0	1
<b>E/P2/A5/F2</b>	0	0	1
<b>E/P2/A5/F3</b>	0	0	1
<b>E/P2/A5/F4</b>	0	1	0
<b>E/P2/A5/F5</b>	1	0	0
<b>E/P2/A5/F6</b>	0	0	1
<b>E/P2/A6/F1</b>	0	0	1
<b>E/P2/A6/F2</b>	0	0	1
<b>E/P2/A7/F1</b>	0	0	1
<b>E/P2/A7/F2</b>	1	0	0
<b>E/P2/A7/F3</b>	1	0	0

- **Total number of Expert's Responses per Phase 2 (P2) (e-Visa)**

	<b>Results</b>	<b>Out of</b>
<b># of R/P</b>	1	1
<b># of 2 (Positive)/P</b>	11	30
<b># of 1 (Neutral)/P</b>	7	8
<b># of 0 (Negative)/P</b>	12	30

- **Number of Expert's Responses per Factor for Phase 3 (e-Visa)**

Path	# of 2 (Positive)	# of 1 (Neutral)	# of 0 (Negative)
E/P3/F0	0	1	0
E/P3/A1/F1	0	1	0
E/P3/A1/F2	0	1	0
E/P3/A1/F3	0	1	0
E/P3/A2/F1	0	1	0
E/P3/A2/F2	0	0	1
E/P3/A2/F3	0	0	0
E/P3/A3/F1	0	0	1
E/P3/A3/F2	0	0	1
E/P3/A3/F3	1	0	0

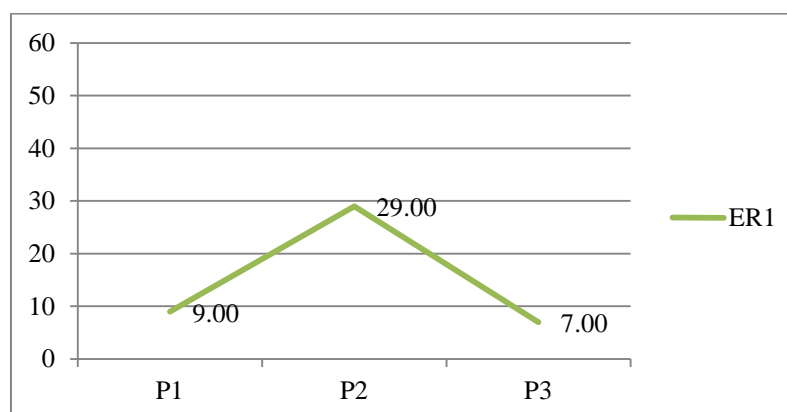
- **Total number of Expert's Responses per Phase 3 (P3) (e-Visa)**

	Results	Out of
# of R/P	1	1
# of 2 (Positive)/P	1	10
# of 1 (Neutral)/P	5	5
# of 0 (Negative)/P	3	10

- **Total number of Expert's Responses for (e-Visa)**

	Results	Out of
# of R/C	1	1
# of 2 (Positive)/E	16	50
# of 1 (Neutral)/E	13	14
# of 0 (Negative)/E	20	50

- **ER1 e-Visa Emotion Line (EL)**



- **ER1 e-Visa per P1, P2, and P3**

<b>ER1</b>
45.00

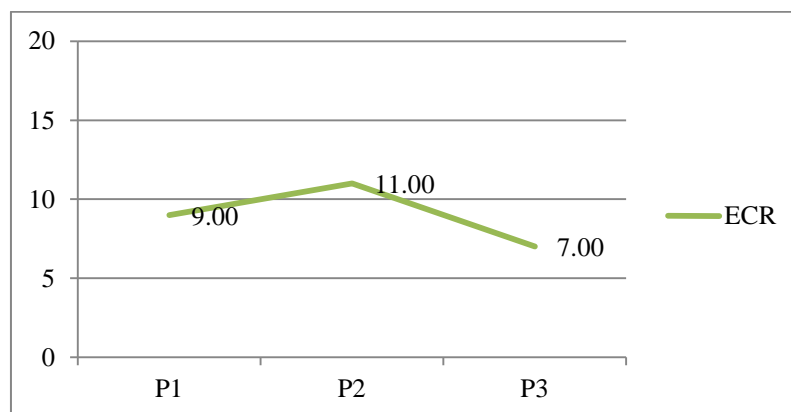
- **ER1 e-Visa per Phase (P)**

<b>P</b>	<b>ER1</b>
<b>P1</b>	09.00
<b>P2</b>	29.00
<b>P3</b>	07.00

- **iMGov4C, and iMGov4E Mapped Factors for Phase 2**

<b>iMGov4C</b>	<b>iMGov4E</b>
C/P2/F0	E/P2/F0
C/P2/A1/F1	E/P2/A1/F1
C/P2/A1/F2	E/P2/A1/F2
C/P2/A1/F3	E/P2/A1/F3
C/P2/A2/F1	E/P2/A2/F1
C/P2/A2/F2	E/P2/A2/F2
C/P2/A2/F3	E/P2/A2/F3
C/P2/A3/F1	E/P2/A3/F1
C/P2/A3/F2	E/P2/A3/F2
C/P2/A3/F3	E/P2/A3/F3

- **iMGov4E Mapped to iMGov4C (ECR) for e-Visa Emotion Line (EL)**



## Y. Data collection approval

 برنامج يسر رقم الصادر: ٦/١٤٩٦ التاريخ: ١٤٣٢/٠٩/١٧ هـ المرفقات: - 	<b>وزارة الاتصالات وتقنية المعلومات</b> Ministry of Communications and Information Technology 
نسخة لمعالي مدير جامعة طيبة	حفظه الله
سعادة الملحق الثقافي في سفارة المملكة العربية السعودية في بريطانيا	
حفظه الله	
السلام عليكم ورحمة الله وبركاته،	
<p>نحيطكم علماً بأن الأستاذ/ إبراهيم بن محمد الفضلي تقدّم لبرنامج التعاملات الإلكترونية الحكومية (يسر) بطلب موافقة على تنفيذ دراسة ميدانية من خلال زيارته لمقر البرنامج في مدينة الرياض ومقابلة عدد من منسوبي برنامج التعاملات الإلكترونية الحكومية (يسر)، لجمع عدد من البيانات التي تتعلق بمجال بحثه في مجال (الحكومة الإلكترونية)، لنيل درجة الدكتوراه من جامعة (درهام)،</p> <p>وعليه يفيد برنامج التعاملات الإلكترونية الحكومية بقبول طلب الأستاذ/ إبراهيم بن محمد الفضلي زيارة البرنامج ومقابلة عدد من منسوبي برنامج التعاملات الإلكترونية الحكومية بالتنسيق مع إدارة مركز التميز للأبحاث والتطوير بالبرنامج، وقد مُنح هذا الخطاب بناء على طلبه وذلك لتقديمه إلى (الملحقية الثقافية السعودية في بريطانيا).</p> <p>وتقبلوا سعادتك فائق التحية والتقدير،،</p>	
<p>مستشار الوزير والمدير العام لبرنامج التعاملات الإلكترونية الحكومية</p>  علي بن صالح آل صمع	
- ص. إدارة مركز التميز للأبحاث والتطوير بالبرنامج.	
<hr/>	
<p>المملكة العربية السعودية - الرياض ١١١٢ - هاتف : ٤٥٢٢٢٢٢ - فاكس : ٤٥٢٢٢٢٠ - الموقع الإلكتروني : www.mcit.gov.sa Kingdom of Saudi Arabia - Riyadh 1112 - Tel.: 4522222 - Fax : 4522220 - Website : www.mcit.gov.sa</p>	